

EXHIBIT 34
[FILED UNDER SEAL]

HIGHLY CONFIDENTIAL – SUBJECT TO PROTECTIVE ORDER

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS**

STATE OF TEXAS, et al.

Plaintiffs,

v.

GOOGLE LLC,

Defendant.

Civil Action No.: 4:20-CV-957-SDJ

EXPERT REPORT OF DONNA L. HOFFMAN, PH.D.

July 30, 2024

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I. Qualifications

1. My name is Donna L. Hoffman. I am a Full Professor of Marketing at The George Washington University School of Business. I am the holder of the endowed chair, titled the Louis Rosenfeld Distinguished Scholar, at The George Washington University.
2. I hold a Ph.D. from the L.L. Thurstone Psychometric Laboratory of the University of North Carolina at Chapel Hill with a formal minor in marketing. My primary formal training is in psychometrics, a field of behavioral science focused on the quantification and measurement of human cognition and behavior and experimental design. In 2002, the University of North Carolina named me a Distinguished Graduate Alum in honor of their Centennial. Before joining The George Washington University, I was a faculty member at Columbia University, the University of Texas, Vanderbilt University, and the University of California, Riverside. I have also served as a visiting scholar at University of California, Los Angeles, Stanford University, University of Southern California, University of California, San Diego, and University of Hong Kong.
3. The principal focus of my research over the past two decades has been in the area of online consumer experience, including analysis of online consumer behavior in new media and technology environments, online customer flow experience, digital commerce and Internet marketing strategy, social media, the social and policy implications of the commercialization of the Internet and, more recently, artificial intelligence. I regularly use survey methods and experimental designs as part of my research.
4. In my 1996 *Journal of Marketing* seminal paper, I introduced a conceptual framework to study consumer experience on the Internet, analyzed the role of navigation flows, and examined its marketing implications.¹ This paper is one of the most cited papers in the entire marketing discipline.² This framework has been widely adopted by other academics and researchers in a

¹ Hoffman, Donna L., and Thomas P. Novak (1996), "Marketing in Hypermedia Computer-Mediated Environments: Conceptual Foundations," *Journal of Marketing*, 60, 3, 50–68 ("Hoffman and Novak (1996)").

² Stremersch, Stefan, Isabel Verniers, and Peter C. Verhoef (2007), "The Quest for Citations: Drivers of Article Impact," *Journal of Marketing*, 71, 3, 171–193 ("Stremersch et al. (2007)") at p. 177.

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variety of disciplines including human-computer interaction.³ In my 2003 *Journal of Consumer Psychology* paper, I studied consumer behavior in online stores and the importance of trust to develop long-term business relationships between customers and online retailers.⁴ In my 2009 *Journal of Interactive Marketing* paper, I analyzed the role of flow in online environments and the marketing outcomes of flow, and I updated the application of the flow construct to study consumer experience online considering the development of the Internet.⁵

5. As of July 2024, my research has been cited 39,851 times. Sixteen of my published articles have been cited over 500 times and 40 of my published articles have been cited at least 100 times.⁶ Two of my research articles are among the most cited articles in the journals in which they appear and among them, as noted above, my 1996 seminal *Journal of Marketing* paper on consumer experience on the Internet is the number one most cited paper in the entire marketing discipline between 1990 and 2002.⁷ My 2000 *Marketing Science* paper on customer experience in online environments is one of the “all-time most highly cited articles” and the top article in terms of “all-time citations per year” in *Marketing Science*, as well as the 14th most cited paper in the entire marketing discipline between 1990–2002.⁸

6. I am the author of 87 papers, including articles published in leading academic journals such as *Science*, *Marketing Science*, *Management Science*, *Journal of Marketing Research*, *Journal of Marketing*, *Journal of Consumer Research*, and *Journal of Consumer Psychology*,

³ As of June, 2024, my 1996 article introducing this framework has been cited 10,351 times per Google Scholar. See “Marketing in Hypermedia Computer-Mediated Environments: Conceptual Foundations,” *Google Scholar*, https://scholar.google.com/scholar?hl=en&as_sdt=0%2C33&q=Marketing+in+Hypermedia+Computer-Mediated+Environments%3A+Conceptual+Foundations&btnG=. For examples of papers that have adopted this framework, see Richard, Marie-Odile, and Ramdas Chandra (2005), “A Model of Consumer Web Navigational Behavior: Conceptual Development and Application,” *Journal of Business Research*, 58, 8, 1019–1029; Wu, Ing-Long, Mai-Lun Chiu, and Kuei-Wan Chen (2020), “Defining the Determinants of Online Impulse Buying Through a Shopping Process of Integrating Perceived Risk, Expectation-Confirmation Model, and Flow Theory Issues,” *International Journal of Information Management*, 52, 1–12; Barhorst, Jennifer B. et al. (2021), “Blending the Real World and the Virtual World: Exploring the Role of Flow in Augmented Reality Experiences,” *Journal of Business Research*, 122, 423–436.

⁴ Hoffman, Donna L., Thomas P. Novak, and Marcos Peralta (1999), “Building Consumer Trust Online,” *Communications of the ACM*, 42, 4, 80–85.

⁵ Hoffman, Donna L., and Thomas P. Novak (2009), “Flow Online: Lessons Learned and Future Prospects,” *Journal of Interactive Marketing*, 23, 1, 23–34 (“Hoffman and Novak (2009)”).

⁶ See Appendix A.

⁷ Stremersch et al. (2007), p. 177.

⁸ Novak, Thomas P., Donna L. Hoffman, and Yiu-Fai Yung (2000), “Measuring the Customer Experience in Online Environments: A Structural Modeling Approach,” *Marketing Science*, 19, 1, 22–42 (“Novak et al. (2000)”); Shugan, Steven M. (2008), “Editorial: Introduction to the Special Classics Issue,” *Marketing Science*, 27, 1, 9–11 at pp. 9–10; Stremersch et al. (2007), p. 177.

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among many others, and leading practitioner publications such as the *Harvard Business Review* and the *Sloan Management Review*, along with chapters in books. I am the co-editor of the book *Beyond the Basics: Research-Based Rules for Internet Retailing Advantage*. My publications also include working papers and technical reports as well as a number of articles I have published in the popular press, including *Wired*, *HotWired*, *MicroTimes*, and *Information Impact Magazine*.

7. I am on or have previously served on the editorial boards of most of the top marketing journals in the world. Currently, I am an Associate Editor (“AE”) of the *Journal of Marketing* and the *Journal of Consumer Psychology*; I recently completed an AE term at the *Journal of Consumer Research* and serve as a guest AE for the *Journal of Marketing Research*. In addition to these editorial duties, I also served on the Editorial Boards of the *Journal of Consumer Psychology*, *Journal of Consumer Research*, *Journal of Marketing*, and *Journal of Marketing Research*, among others. I have also served as an Academic Trustee of the Marketing Science Institute.

8. I was Editor of the first special issue of *Marketing Science* devoted to “Marketing Science and the Internet” and the Special Issue Editor, Marketing Section, for the “Electronic Commerce Metrics” issue of *Information Systems Research*. I was also the co-editor of a special issue of the *Journal of Interactive Marketing* on “Social Media” and a co-editor of a special issue of the *Journal of Marketing* on “New Technologies and Marketing.” I served as a Final Judge for *Inc. Magazine*’s competition of the best marketing websites.

9. My research has been funded by the Alfred P. Sloan Foundation, the National Science Foundation, the Marketing Science Institute, Google/WPP, and the University of Pennsylvania Future of Advertising Center/Wharton Customer Analytics Initiative.

10. I am a recipient of several of the marketing field’s most prestigious research awards, including being named a Society for Consumer Psychology Fellow, the Robert B. Clarke Outstanding Educator of the Year Award from Marketing EDGE (formerly the DMEF), the Sheth Foundation/*Journal of Marketing* Award for long-term contributions to the discipline of marketing, the Stellner Distinguished Scholar Award from the University of Illinois, the William O’Dell/*Journal of Marketing Research* Award for long-term research impact, and the Robert D. Buzzell Marketing Science Institute Best Paper Award Honorable Mention.

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11. I have won several other awards in connection with my research. I was voted the top Internet Scientist by over 600 U.S. and European scientists and marketing managers in a survey conducted by the ProfNet Institute for Internet Marketing in Dortmund, Germany.

12. I co-founded and co-direct the Center for the Connected Consumer at The George Washington University School of Business, an initiative that aims to understand “how consumers interact with smart objects that are connected to the Internet.”⁹ Previously, as a professor at Vanderbilt University and the University of California, Riverside, I co-founded and co-directed the Sloan Center for Internet Retailing for ten years, an initiative that focuses on customer experience, with a pioneering virtual laboratory for research on the online customer experience. I have also co-founded and co-directed the first academic center for electronic commerce in the United States, called eLab.¹⁰ The *New York Times* called eLab “one of the premier research centers in the world for the study of electronic commerce” and the *Wall Street Journal* recognized the effort as the “electronic commerce pioneer among business schools.”¹¹

13. I received the EDSF Excellence in Education Award for Innovation in Higher Education (sponsored by Xerox) for my work establishing the eLab virtual behavioral laboratory, and eLab has received a commendation from the Association to Advance Collegiate Schools of Business (AACSB) for “International Effective Practice.”

14. I co-created, co-launched and directed the first formal MBA curricular concentration in the world for the study of electronic commerce at a business school while I was a professor at Vanderbilt University. I also taught the first MBA course on Internet marketing at a business school. I have created and taught courses in Internet Marketing Strategy, Digital Commerce Strategy, Managing the Customer Chain, AI and Marketing Strategy, and Marketing Strategy Analytics.

15. I have worked with major corporations on the topics of online consumer experience and digital marketing strategy, including Procter & Gamble, Intel, Microsoft, FedEx.com, Land’s

⁹ “About the Center,” *GW Center for the Connected Consumer*, <https://postsocial.gwu.edu/about/>.

¹⁰ “Hoffman and Novak Named ‘Distinguished Graduate Alumni,’” *Vanderbilt University News*, June 6, 2003, <https://news.vanderbilt.edu/2003/06/06/hoffman-and-novak-named-145distinguished-graduate-alumni146-59977/>.

¹¹ “Hoffman Receives Clarke Award,” *American Marketing Association*, August 1, 2011, <https://www.ama.org/listings/2011/08/01/hoffman-receives-clarke-award/>.

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End/Sears, Walmart.com, and CBS Interactive, among many others. I have also served as a member of the Procter & Gamble Digital Advisory Board.

16. I have previously served as an expert witness in multiple matters and opined on issues relating to consumer experience in online environments. The hourly rate I am charging for this engagement is \$1,100 per hour. Staff at Cornerstone Research, an economic consulting firm, worked under my direction and helped me prepare my report. I receive compensation from Cornerstone Research based on its collected staff billings for its support of me in this matter. Neither my compensation in this matter nor my compensation from Cornerstone Research is in any way contingent or based on the content of my opinion or the outcome of this or any other matter. A complete list of my professional qualifications, publications (including all publications from the last 10 years), affiliations, and expert witness testimony (including all testimony from the last 10 years) are described in my curriculum vitae, which is attached as **Appendix A**.

II. Background and Allegations

17. I understand that that States of Texas, Alaska, Arkansas, Florida, Idaho, Indiana, Louisiana, Mississippi, Missouri, Montana, Nevada, North Dakota, South Carolina, South Dakota, and Utah, and the Commonwealths of Kentucky and Puerto Rico, (collectively the “Plaintiff States”), have accused Google LLC (“Google”) of various violations of federal and state antitrust and deceptive trade practices laws.¹²

18. These violations center around Google’s advertising technology related to display ads.¹³ I understand this to be the process through which Google enables the buying and selling of display ads across many websites. The Plaintiff States allege that Google engaged in illegal activity across seven of Google’s products: DoubleClick for Publishers (“DFP”), DoubleClick Ad Exchange (“AdX”), Google Ads, DV360, AdMob mediation, GAM for apps, and AdMob network.¹⁴

¹² Fourth Amended Complaint, *In Re: Google Digital Advertising Antitrust Litigation, State of Texas et al., v. Google LLC*, United States District Court for the Southern District of New York, Case No. 1:21-cv-06841-PKC, May 5, 2023 (“Complaint”), ¶ 1.

¹³ Complaint, ¶¶ 3–4.

¹⁴ Complaint, ¶ 17.

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19. In addition to these allegations, the Plaintiff States allege that Google engaged in deceptive trade practices towards advertisers, publishers, and consumers.¹⁵ In particular, the Plaintiff States allege that Google has used deceptive language when describing its advertising and privacy practices to users.¹⁶ Specifically, the Complaint alleges that Google misleads consumers when it states that “It Does Not Sell Users’ Personal Information,” stating that Google “takes user’s personal information, displays it to advertisers, who in turn pay Google money for access to that user.”¹⁷

III. Assignment

20. I have been engaged by Counsel for Google to opine on the development of the ad-supported Internet, consumer preferences with respect to advertising, and whether Google’s practices regarding user information are consistent with these preferences. I have not been asked to address any antitrust claims nor have I been asked to opine on Google’s interactions with publishers or advertisers.

21. A list of the documents I relied upon in the course of preparing this report can be found in **Appendix B.**

IV. Summary of Opinions

22. **Consumers value free ad-supported content on the Internet.** The Internet today is largely free to access and is supported by advertising. This revenue model developed because of consumer preferences for free content over paid content. Consumers understand that advertising is crucial to keeping the Internet free. Google’s business model is consistent with consumer preferences for a free ad-supported Internet.

23. **Within the ad-supported content model, consumers prefer to see ads that are relevant to them and are willing to share information to receive personalized ads.** Survey and academic empirical evidence support the idea that consumers understand they will see ads

¹⁵ Complaint, Section IX.

¹⁶ Complaint, Sections IX E–H.

¹⁷ Complaint, Section F, ¶ 578.

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online and given that fact, they prefer the ads to be relevant to them. Consumers furthermore understand that relevant ads they see are based on their personal data, and many are willing to exchange their personal data for ads that are personalized.

24. **Consumers vary in their preferences for sharing data and Google provides consumers tools to customize what they share and the types of ads they see based on their preferences.** Not all consumers are comfortable with personalized advertising. Google notifies all consumers, whether they are account holders or not, of how Google uses their data and provides them with tools to customize the information that is shared about them and the types of ads they see.

V. Consumers value free ad-supported content on the Internet.

A. The ad-supported revenue model of the Internet is a product of consumer preferences.

25. On today's Internet, content and services that are free of charge and supported by advertising are ubiquitous.¹⁸ However, in the early days of the Internet, it was not obvious that free ad-supported content would become as widespread as it is today or how, if at all, Internet content would be supported or monetized. For example, an article I co-authored in 1995 noted that there was at that time uncertainty about what types of business models would flourish on the Internet,¹⁹ and predicted that fee-based content sites, on which users would pay to access individual articles or sites were "expected to proliferate."²⁰ At the time, which business model companies would adopt to monetize their online services and content remained an open question.

¹⁸ "Americans Value Free Ad-Supported Online Services at \$1,400/Year; Annual Value Jumps More Than \$200 Since 2016," *Digital Advertising Alliance*, September 28, 2020, <https://www.prnewswire.com/news-releases/americans-value-free-ad-supported-online-services-at-1-400year-annual-value-jumps-more-than-200-since-2016--301138934.html> ("A large majority (84 percent) say they prefer the current ad-supported Internet where most content and services are free over a paid Internet with no advertising.").

¹⁹ Hoffman, Donna L., Thomas P. Novak, and Patrali Chatterjee (1995), "Commercial Scenarios for the Web: Opportunities and Challenges," *Journal of Computer-Mediated Communication*, 1, 3 ("Sponsored content sites sell advertising space to reduce or eliminate the necessity of charging fees to visitors [...] At the present time, there is generally no (sponsored content) or at most a small (fee-based) charge to consumers to consume the content." (emphasis removed)).

²⁰ Hoffman, Donna L., Thomas P. Novak, and Patrali Chatterjee (1995), "Commercial Scenarios for the Web: Opportunities and Challenges," *Journal of Computer-Mediated Communication*, 1, 3 ("In Fee-Based content sites, the provider supplies and/or pays for content which the consumer pays to access. Fee-based content sites are

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26. As the Internet started on its evolution to become a commercialized communication medium, firms explored different payment models. For example, several companies, including Millicent, First Virtual Holdings, and Cybergold,²¹ experimented in the late 1990s with business models using so-called “micropayments,” in which small payments, as low as several cents or less, would be made for each page or article viewed by a consumer,²² including via pre-paid micropayment accounts and the addition of charges to Internet bills.²³ Despite these attempts, the micropayments-based model of the Internet was ultimately unsuccessful.²⁴

expected to proliferate as secure payment mechanisms are implemented. To date, however, the model has met with only limited success, perhaps because consumers may be unwilling to pay for content delivered in this manner.” (emphasis removed)).

²¹ Digital Equipment Corporation, a leading vendor of computer systems from the 1950s to 1990s, introduced “Millicent” in March 1997 as “the first microcommerce system that will allow millions of users to buy and sell information profitably in amounts as small as fractions of a cent.” See “Millicent Introduction,” *Millicent*, March 17, 2024, <https://web.archive.org/web/19970601153824/http://www.millicent.digital.com/html/palmer.html>. See also “Digital Equipment Corporation (USA),” *LinkedIn*, <https://www.linkedin.com/company/digital-equipment-corporation-usa>. “First Virtual Holdings Incorporated was one of the first companies to design a payment mechanism specifically for the Internet” in 1994. This payment mechanism allowed consumers to securely use their credit cards on the Internet via a “[v]irtual [p]in.” See “First Virtual Holdings Incorporated,” *International Conference on Information Systems Proceedings* 76, December, 1999, <https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1155&context=icis1999>. Founded in 1996, Cybergold Inc. operated “the online [e]arn and [s]pend [c]ommunity” and enabled “consumers to earn money by responding to advertisements or commercial offers.” In March 1999, Cybergold announced its attempt at the micropayment system. See “Internet Concern Plans System for Small Online Transactions,” *New York Times*, March 8, 1999, <https://archive.nytimes.com/www.nytimes.com/library/tech/99/03/biztech/articles/08gold.html>. “What’s a Micropayment Anyway?” *Medium*, November 29, 2017, <https://medium.com/@pluspare/whats-a-micropayment-anyway-5dbe4c1738f7> (“In the late 90s, companies like Pay3See, Flooz, iPin, Millicent and FirstVirtual started to develop micropayment systems for the Internet.”).

²² “Micropayments for Digital Content Monetization,” *Finance Magnates*, August 3, 2023, <https://www.financemagnates.com/fintech/payments/micropayments-for-digital-content-monetization/> (“Micropayments are small sums paid for single pieces of digital content. Consumers can pay a small fee for each article, video, or song they access instead of paying for a subscription or viewing advertisements. Micropayments are typically between a few cents and a few dollars in value, which are processed through digital payment systems.”).

²³ “Welcome to the Millicent Web Site,” *Millicent*, March 10, 1997, <https://archive.ph/19970601153143/http://www.millicent.digital.com/>; “First Virtual Holdings Incorporated,” *International Conference on Information Systems Proceedings* 76, December 1999, <https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1155&context=icis1999>; “Internet Concern Plans System for Small Online Transactions,” *New York Times*, March 8, 1999, <https://archive.nytimes.com/www.nytimes.com/library/tech/99/03/biztech/articles/08gold.html> (“There have been various attempts to create micropayment systems on the Internet, including efforts by Cybercash Inc., Digicash Inc. and the First Virtual Corp. But so far, none of these efforts have yet been widely adopted. They have failed, Goldhaber said, at least in part because their systems required users to download large software files, which then limited the consumer to using the PC on which the software was installed. In contrast, the Cybergold system is based on standard Web software and can be used from virtually any computer with an Internet connection.”).

²⁴ “Who Killed the Micropayment? A History,” *Medium*, March 18, 2021, <https://caseorganic.medium.com/who-killed-the-micropayment-a-history-ec9e6eb39d05> (“30 years into the web’s history, micropayments still aren’t a part of our daily lives. [...] Many smaller companies tried to implement systems in line with this philosophy. Pay2See, Flooz, Millicent, FirstVirtual, Digicash, Beenz, and countless others. [...] After being adopted by only a single bank in Missouri, Digicash went bankrupt. FirstVirtual shifted to email and messaging. Flooz found itself at the center of a Russian money laundering scheme, with an estimate of 19% of all their traffic being fraudulent. All of their credits became worthless and non-refundable.”).

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27. In contrast to the micropayments model, which required frequent small payments, the free, ad-supported revenue model offered users access to free content in exchange for viewing ads. Empirical research has demonstrated that consumers have a special preference for zero-price products over low-priced products beyond what the small difference in price would suggest.²⁵ Consistent with this research, it is not surprising that the free ad-supported model gained prominence in the late 1990s and early 2000s. The ad-supported model first emerged in 1994 with the sale of the first banner ad (an ad that appears across the top of a webpage).²⁶ Additionally, in 1996, the pay-per-click (“PPC,” also called cost-per-click) advertising model allowed advertisers to pay a fee only when an ad is clicked instead of paying per view or for ad placement.²⁷ In 1998, the search engine GoTo.com further innovated on the PPC approach by developing a PPC *bidding* model, which combined the PPC payment model with an auction, where advertisers bid to have their results shown at the top of the search results for specific keywords.²⁸ In 2000, Google launched AdWords, a self-service advertising platform “that enable[d] any advertiser to purchase individualized and affordable keyword advertising that

²⁵ Shampanier, Kristina, Nina Mazar, and Dan Ariely (2007), “Zero as a Special Price: The True Value of Free Products,” *Marketing Science*, 26, 6, 742–757 at p. 742 (“In contrast with a standard cost-benefit perspective, in the zero-price condition, dramatically more participants choose the cheaper option, whereas dramatically fewer participants choose the more expensive option. Thus, people appear to act as if zero pricing of a good not only decreases its cost, but also adds to its benefits.”). *See also* Ching, Andrew T., David Granlund, and David Sundström (2022), “Quantifying the Zero-Price Effect in the Field: Evidence from Swedish Prescription Drug Choices,” *Journal of the Association for Consumer Research*, 7, 2, 175–185 at p. 184 (“The results show that [...] consumers respond to zero price quite significantly. In particular, for the subsamples of new diagnoses and switchers, which are less likely to be affected by state dependence, the zero-price effect is sizable”); Iizuka, Toshiaki and Hitoshi Shigeoka (2022), “Is Zero a Special Price? Evidence from Child Health Care,” *American Economic Journal: Applied Economics*, 14, 4, 381–410 at pp. 381, 383 (“Do consumers demand disproportionately more if the price is zero instead of a very low price? The ‘zero price’ effect may exist if consumers strongly associate greater benefits with free products and if a zero price increases valuation from when it is a low price [...] First, we find that the zero-price effect exists. A zero price is special, and it discontinuously boosts demand.”).

²⁶ “‘The Beginning of a Giant Industry’: An Oral History of the First Banner Ad,” *Digiday*, November 8, 2017, <https://digiday.com/media/history-of-the-banner-ad/>; “Banner Definition,” *Merriam-Webster*, <https://www.merriam-webster.com/dictionary/banner>. Banner ads are a type of display ad. *See* “Display Campaigns: Reach More People in More Places Online,” *Google Ads*, https://web.archive.org/web/20190711092708/https://ads.google.com/intl/en_us/home/campaigns/display-ads/; *see also* Nesamoney, Diaz (2015), *Personalized Digital Advertising*, Old Tappan, NJ: Pearson Education, Inc., pp. 1–2, 67–68.

²⁷ Fain, Daniel C. and Jan O. Pederson (2006), “Sponsored Search: A Brief History,” *Bulletin of the American Society for Information Science and Technology*, 32, 2, 12–13.

²⁸ “Pay-for-Placement Gets Another Shot,” *CNET*, February 19, 1998, <https://www.cnet.com/tech/services-and-software/pay-for-placement-gets-another-shot/> (“Gross’s search engine [Goto.com] will rank Web sites based on how much the sites are willing to pay to be placed at the top of the search under a real-time competitive bidding process.”); Jansen, Bernard J. and Tracy Mullen (2008), “Sponsored Search: An Overview of The Concept, History, and Technology,” *International Journal of Electronic Business*, 6, 2, 114–131 at pp. 119–121.

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appear[ed] instantly on the google.com search results page.”²⁹ In 2002, Google switched AdWords to a PPC bidding model,³⁰ with the addition of a “Quality Score” to prevent advertisers from bidding up prices of competing keywords.³¹

28. The growth of the free ad-supported model for online businesses was not limited to ads on search engines: ad networks emerged to help advertisers fill publishers’ ad inventory across a wide range of sites and with less manual management through display ads. DoubleClick, which launched in 1996, leveraged user data to help advertisers target specific audiences wherever they might appear across the web.³² In 2003, Google introduced AdSense, which allowed it to sell display ad placement on third-party websites, where ads were tailored based on the content on the website.³³ These innovations contributed to the success of the free ad-supported revenue model. This free, ad-supported revenue model is important because it allowed content to remain accessible for free to consumers, as I discuss in Section V.B.

²⁹ “Google Launches Self-Service Advertising Program,” *Google*, October 23, 2000, <https://googlepress.blogspot.com/2000/10/google-launches-self-service.html>.

³⁰ “Google’s Big Break,” *Slate*, October 13, 2013, <https://slate.com/business/2013/10/googles-big-break-how-bill-gross-goto-com-inspired-the-adwords-business-model.html> (“In 2002 Google launched its own pay-per-click, auction-based search-advertising product, called AdWords Select. It was instant gold, and Google soon dropped the original AdWords altogether.”).

³¹ “Google’s Big Break,” *Slate*, October 13, 2013, <https://slate.com/business/2013/10/googles-big-break-how-bill-gross-goto-com-inspired-the-adwords-business-model.html> (“Doug Edwards, an early marketing executive and author of the insider account *I’m Feeling Lucky: The Confessions of Google Employee Number 59*, says that Google’s executives saw the GoTo.com model as fundamentally flawed, because advertisers could bid up keywords irrelevant to their business, knowing that they would only have to pay if people clicked. As Levy explains in his book, Google addressed this by adding a “quality score” to each ad to punish those that were spammy or off-topic.”).

³² “An Advertising Power, But Just What Does DoubleClick Do?” *New York Times*, September 22, 1999, <https://www.nytimes.com/1999/09/22/technology/an-advertising-power-but-just-what-does-doubleclick-do.html> (“DoubleClick’s technology backbone, called the Dynamic Advertising Reporting and Targeting system, or DART, works by reading 22 criteria, many of them, like location, embedded in a user’s Internet address, others, like time of day, based on external considerations. Spy programs called ‘cookies,’ usually dropped stealthily into a user’s hard drive, can further refine the target by telling the server whether someone is a repeat visitor to a site or has seen a specific advertisement.”). Banner ads allowed advertisers to measure consumer behavior to improve their marketing strategies. See Chatterjee, Patrali, Donna L. Hoffman, and Thomas P. Novak (2003), “Modeling the Clickstream: Implications for Web-Based Advertising Efforts,” *Marketing Science*, 22, 4, 520–541 at p. 536 (“In stark contrast with broadcast media, online marketers are able to use sophisticated technologies such as smart ad delivery and tracking on rich clickstream databases to fit models similar to the ones developed here. Such individual-level models can thus help marketers develop more effective online advertising strategies.”).

³³ “Google’s Big Break,” *Slate*, October 13, 2013, <https://slate.com/business/2013/10/googles-big-break-how-bill-gross-goto-com-inspired-the-adwords-business-model.html> (“AdSense [...] allowed it to sell target ads on third-party websites.”). See also, “AdSense Turns 10: Reflections On Google’s Great Leap Beyond Search Ads,” *MarTech*, February 27, 2013, <https://martech.org/adsense-turns-10-reflections-on-googles-great-leap/> (“However, Google had been developing technology to do ‘contextual’ ad placement. The idea was that Google could read the words on a webpage, then insert ads that were deemed relevant to the ‘context’ of that page. No search was conducted, but somewhat similar to search, the ads were much more targeted than a typical display ad. They were contextually targeted to what someone was reading.”).

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29. The ad-supported model of online content distribution achieved mainstream adoption, as the micropayment and other revenue models failed to gain traction.³⁴ The relative success of online services and content supported by advertising is consistent with consumer preferences for free ad-supported content online, which I also discuss in the sections that follow. A likely additional contributor to the success of the ad-supported model of free Internet content was that the culture of the early Internet explicitly valued, indeed demanded, that online content should be “free.” In summarizing the perceptions of the Internet in the 1990s, Bietti (2023) notes “the [I]nternet was imagined as a decentralized, horizontal, and open space that would foster freedom and equality.”³⁵ As an example, in the early days of the Internet, commentators posited that “Information Wants to Be Free.”³⁶

30. The view that content online should largely be free persists today. For example, a 2024 study by the Interactive Advertising Bureau (“IAB”), an online advertising industry group, found that 91% of consumers would be “frustrated, disappointed, angry, confused, or sad if they had to start paying for websites/apps that are currently free,” highlighting the cultural, economic, and philosophical difficulties of switching to micropayment or subscription-based business models.³⁷

³⁴ “What’s a Micropayment Anyway?” *Medium*, November 29, 2017, <https://medium.com/@pluspare/whats-a-micropayment-anyway-5dbe4c1738f7> (“In the late 90s, companies like Pay3See, Flooz, iPin, Millicent and FirstVirtual started to develop micropayment systems for the Internet. Pre-paid accounts, additional charges to Internet bills and a few other ways to make these payments were considered, but none of these projects successfully reached the market.”). *See also*, “Micropayments: Exploring Usage and Examples,” *Supermoney*, March 15, 2024, <https://www.supermoney.com/encyclopedia/micropayments> (“In the 1960s, technology futurist Ted Nelson coined the term ‘micropayment’ envisioning payments as small as one ten-thousandth of a penny to enable payment for individual copyrights on online content. Though this concept laid the groundwork for a low-cost network model, the current internet operates primarily on an advertising-based [model]. [...] While Nelson’s vision was ahead of its time, the widespread adoption of micropayments did not materialize immediately. Instead, the internet primarily evolved into an advertising-based model, leading to micropayments being relegated from mainstream acceptance in paying for online content.”). Among the contributing factors to the failure of the micropayments model were: payment processing costs that were too high relative to the small size of the payments themselves; cultural resistance to the idea of paying for content on the Internet; and the cognitive load caused by asking consumers to decide whether or not to pay every time they access content. *See* “Why Micropayments Will Never Be a Thing in Journalism,” *Columbia Journalism Review*, June 15, 2020, <https://www.cjr.org/opinion/micropayments-subscription-pay-by-article.php>. *See also*, “Micropayments-For-News Pioneer Blendle is Pivoting From Micropayments,” *Nieman Lab*, <https://www.niemanlab.org/2019/06/micropayments-for-news-pioneer-blendle-is-pivoting-from-micropayments/>.

³⁵ Bietti, Elettra (2023), “A Genealogy of Digital Platform Regulation,” *Georgetown Law Technology Review*, 7, 1, 1–68 at pp. 1, 12. *See also* “A Declaration of the Independence of Cyberspace,” *Electronic Frontier Foundation*, February 8, 1996, <https://www.eff.org/cyberspace-independence>.

³⁶ *See* “The Economy of Ideas,” *Wired.com*, March 1, 1994, <https://www.wired.com/1994/03/economy-ideas/>.

³⁷ *The Free and Open Ad-Supported Internet: Consumers, Content and Assessing the Data Value Exchange*, Interactive Advertising Report, January 30, 2024, <https://www.iab.com/wp-content/uploads/2024/01/IAB-Consumer-Privacy-Report-January-2024.pdf> (“IAB 2024 Survey”), pp. 4, 11. IAB is a media industry trade group of over 700 companies and includes Google. *See* 2023 *IAB Annual Report*, IAB, 2023, https://www.iab.com/wp-content/uploads/2024/01/2023_IAB_Annual-Report.pdf, p. 30.

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B. Consumers understand that advertising plays a key role in keeping Internet content free and generally prefer free, ad-supported services to paid alternatives.

31. As advertising has developed along with the Internet, so has consumers' understanding of the importance of advertising to the online ecosystem. In particular, consumers understand that advertising supports online content and services that are available free of charge. Additionally, as I explain below, consumers generally prefer free, ad-supported content and services over paid content and services, and many consumers report that they derive significant value from free ad-supported online services and content.

32. Surveys by industry groups and by Google indicate that many consumers understand that advertising supports online services that are accessible free of charge. For example, the 2024 IAB survey mentioned above found that 80% of survey respondents agreed that websites and apps are free because of advertising.³⁸ In the same study, 73% of survey respondents agreed that without the ad-supported Internet, online-only business would not be able to exist.³⁹

33. There is also evidence that, in many contexts, consumers prefer ad-supported services to more expensive, ad-free alternatives. For example, in the 2024 IAB survey, when presented with different hypothetical options for seeing ads or paying money for online services, 78% of respondents indicated they would prefer to “get more ads [and] pay nothing.”⁴⁰ [REDACTED]

[REDACTED]⁴¹ and, according to a May 2021 YouGov survey, 51% of adult U.S. mobile gamers said that they would prefer to watch ads in order to play a mobile game for free, rather than make an in-app payment to play the game without ads.⁴²

³⁸ IAB 2024 Survey, p. 13.

³⁹ IAB 2024 Survey, p. 8.

⁴⁰ IAB 2024 Survey, p. 14.

⁴¹ “Consumer Attitudes Towards Digital Advertising 2021: Reaching the Concerned and Ad-Avoidant User,” GOOG-AT-MDL-010322108–128 (“GOOG-AT-MDL-010322108–128”) at 117.

⁴² “Nearly 2 in 5 American Gamers Made a Purchase Because of an In-Game Ad,” *YouGov*, May 26, 2021, <https://today.yougov.com/technology/articles/36091-nearly-2-5-american-gamers-made-purchase-because-g>.

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34. Users’ revealed preferences (i.e., the preferences that can be inferred based on what consumers actually choose)⁴³ are for free, ad-supported services over subscription-based ad-free models. For example, Neeva, an ad-free search engine that charged consumers a subscription-based fee for revenue, was launched to the public in 2021.⁴⁴ By June 2023, Neeva was discontinued due to its failure to attract users.⁴⁵ The failure of Neeva underscores consumers’ preferences for free, ad-supported search as compared to paid, ad-free alternatives. Another notable example of consumer preferences for ad-supported content that offers access to free or reduced pricing is in the video streaming market, where both Netflix and Disney launched cheaper, ad-supported versions of their streaming video subscriptions in late 2022, and Amazon launched an ad-supported tier in January 2024.⁴⁶ A 2023 report from Horizon Media found that one in three people who canceled a subscription to a streaming service did so in order to switch into a cheaper, ad-supported streaming service.⁴⁷ The financial performance of Netflix, Disney+, and Amazon Prime Video corroborate the report’s findings. In its 2022 Q4 earnings call, Netflix surpassed general investor expectations by announcing they added 7.7 million new subscribers, which the company attributed in part to the introduction of a lower-priced, ad-supported tier in November 2022.⁴⁸ Similarly, Disney reported that over 50% of its new U.S. Disney+ subscribers

⁴³ Samuelson, Paul A. (1938), “A Note on the Pure Theory of Consumer’s Behaviour,” *Economica*, 5, 17, 61–71.

⁴⁴ “The Rise of Privacy-First Search Engines: A Marketer’s Guide to Neeva, Brave, and DuckDuckGo,” *BrainLabs*, <https://www.brainlabsdigital.com/blog/the-rise-of-privacy-first-search-engines-a-marketers-guide-to-neeva-brave-and-duckduckgo/>.

⁴⁵ “Neeva, Co-Founded By a Former Google Exec, to Shut Down Its Consumer Search Product and Focus On A.I.,” *CNBC*, May 20, 2023, <https://www.cnn.com/2023/05/20/neeva-co-founded-by-a-former-google-exec-to-shut-down-its-consumer-search-product-and-focus-on-ai.html>.

⁴⁶ “One Year into Netflix Ads,” *Netflix*, November 1, 2023, <https://about.netflix.com/en/news/one-year-into-netflix-ads>; “Ad-Supported Disney+ Subscription Tier to Launch in the U.S. On December 8,” *Disney+*, August 10, 2022, <https://press.disneyplus.com/news/ad-supported-disney-plus-subscription-tier-to-launch-in-us-december-8>; Existing Amazon Prime Video subscriptions became ad-supported and consumers could opt in to a more expensive, ad-free tier. See “An Update on Prime Video,” *Amazon*, September 22, 2023, <https://www.aboutamazon.com/news/entertainment/prime-video-update-announces-limited-ads>; “Love Streaming on Prime? Amazon Will Now Force You to Watch Ads, Unless You Pay More,” *USA Today*, January 31, 2024, <https://www.usatoday.com/story/entertainment/tv/2024/01/29/amazon-prime-video-commercials/72323206007/>.

⁴⁷ *Inflation Nation: One Year Later the Status of the American Dream and How Brands Can Help*, Horizon Media, March 2023, <https://horizoncatalyst.com/inflation-nation-one-year-later>, p. 13. See also, “Netflix Gets It Right: Study Confirms More People Prefer Paying Less with Ads” *Forbes*, April 25, 2023, <https://www.forbes.com/sites/tonifitzgerald/2023/04/25/netflix-gets-it-right-study-confirms-more-people-prefer-paying-less-with-ads/>.

⁴⁸ “Netflix Earnings Takeaway: New Ad-Supported Tier Is a Hit,” *Forbes*, January 19, 2023, <https://www.forbes.com/sites/tonifitzgerald/2023/01/19/netflix-earnings-takeaway-new-ad-supported-tier-is-a-major-hit/>.

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in Q4 2023 chose an ad-supported product.⁴⁹ Likewise, by May 2024, at least 75% of Amazon Prime Video users were using the ad-supported tier over the more expensive, ad-free alternative, according to a study by Hub Entertainment Research.⁵⁰ The rise in popularity of ad-supported models in streaming shows that the dominance of free, ad-supported revenue models is not specific to search, but reflects a more general consumer preference for free or discounted pricing in online services in exchange for advertising.

35. Even in markets where specific segments of consumers are willing to pay for content, companies have generally found it more profitable to reach these consumers using so-called “freemium” models. Under a freemium model, a large section of the website or app is ad-supported free content, but consumers have the option to pay to bypass ads or purchase additional features.⁵¹ By 2014, the freemium model had become the “dominant business model among Internet start-ups and smartphone app developers.”⁵² The business success of the freemium model supports the notion that a majority of consumers prefer to access apps for free with ads rather than paying up front for an ad-free version.

36. As well as preferring free ad-supported content to paid content, consumers report that they derive substantial value from Internet services they use for free, which implies that online advertising delivers significant value to Internet users. For example, the 2024 IAB survey estimated that consumers valued annual access to the Internet at approximately \$38,000 per year.⁵³ Similarly, a large-scale survey of Facebook users estimated consumers’ willingness to pay for different online services by offering to pay respondents hypothetical dollar amounts to

⁴⁹ “Q4 FY 23 Earnings Conference Call,” *The Walt Disney Company*, November 8, 2023, <https://thewaltdisneycompany.com/app/uploads/2023/11/q4-fy23-earnings-transcript.pdf>, p. 5.

⁵⁰ “Hub Research: U.S. Streamers Are Shifting To Ad-Supported Tiers,” *World Screen*, May 10, 2024, <https://worldscreen.com/hub-research-u-s-streamers-are-shifting-to-ad-supported-tiers/>; *TV Churn Tracker Q1 2024: Review of Key Trends and Findings From January-March, Excerpt of Findings*, Hub Entertainment Research, May 2024, <https://hubresearchllc.com/reports/?category=2024&title=2024-tv-churn-tracker>, p. 6 (“[A]t least 3 in 4 Prime Video viewers are now subscribed to the ad-supported tier”).

⁵¹ “Making ‘Freemium’ Work,” *Harvard Business Review*, May 2014, <https://hbr.org/2014/05/making-freemium-work> (“Over the past decade “freemium”—a combination of “free” and “premium”—has become the dominant business model among internet start-ups and smartphone app developers. Users get basic features at no cost and can access richer functionality for a subscription fee.”); “How Companies Can Get the Most Out of a Freemium Business Model,” *Harvard Business Review*, March 20, 2019, <https://hbr.org/2019/03/how-companies-can-get-the-most-out-of-a-freemium-business-model> (“One key reason user adoption of the Internet has soared globally is the rise of the ‘freemium’ business model — where users get to use a basic product or service for free, but must pay for a premium version with additional features.”).

⁵² “Making ‘Freemium’ Work,” *Harvard Business Review*, May 2014, <https://hbr.org/2014/05/making-freemium-work>.

⁵³ IAB 2024 Survey, p. 9. The survey finds that respondents value the Internet at \$37,619 per year.

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stop using Facebook. The median willingness to pay to continue using Facebook was nearly \$50 per month for U.S. respondents. The study also estimated that consumers placed greater value on Google services, including Search, Maps, and YouTube, than they did on Facebook. Overall, the study authors calculated that the 10 free online services they studied, including three Google services, generate \$1.29 trillion dollars of value for consumers each year.⁵⁴

C. Google’s business model is consistent with the ad-sponsored revenue models that are ubiquitous on the Internet.

37. Consistent with its stated mission to “organize the world’s information and make it universally accessible,” Google makes many of its products, such as Search, Maps, and Gmail, “accessible and free of charge to everyone.”⁵⁵ Google makes it explicit that these free services are funded by advertising and that it is “[b]ecause of advertising” that Google is “able to offer [its] products to users around the world free of charge.”⁵⁶ Google also states that it makes “the vast majority of [its] money from advertising.”⁵⁷ According to Alphabet’s 2023 10-K statement, approximately 74% of this advertising revenue comes from “Google Search & other,” compared to 13% total from Google Network products, which includes AdMob, AdSense, and Google Ad Manager.⁵⁸

⁵⁴ The study elicited dollar valuations of Facebook, and then asked respondents to rank the other services relative to Facebook. See Brynjolfsson, Erik et al. (2023), “The Digital Welfare of Nations: New Measures of Welfare Gains and Inequality,” *NBER Working Paper* 31670, <https://www.nber.org/papers/w31670>.

⁵⁵ “Our Approach to Search,” *Google*, <https://www.google.com/search/howsearchworks/our-approach/> (“Google’s mission is to organize the world’s information and make it universally accessible and useful.”); “How Our Business Works,” *Google*, <https://about.google/how-our-business-works/> (“Our mission to organize the world’s information and make it universally accessible and useful has always been core to everything we do at Google. It’s why we make so many of our products, like Search, Maps, and Gmail, accessible and free of charge to everyone.”).

⁵⁶ “How Our Business Works,” *Google*, <https://about.google/how-our-business-works/> (“Because of advertising, we’re able to offer our products to users around the world free of charge, helping people find answers and get things done.”).

⁵⁷ “How Our Business Works,” *Google*, <https://about.google/how-our-business-works/> (“While we sell things like Pixel phones, apps on the Play Store, YouTube subscriptions, and tools for businesses, we make the vast majority of our money from advertising.”). See also, Note 2 of Alphabet’s 2023 10-K statement, which documents that 77% (= \$237,855/\$307,394) of Google’s 2023 revenue was from advertising. Alphabet Inc., SEC Form 10-K for Period Ended December 31, 2023, Filed on January 31, 2024, <https://www.sec.gov/Archives/edgar/data/1652044/000165204424000022/goog-20231231.htm>, p. 63.

⁵⁸ Alphabet Inc., SEC Form 10-K for Period Ended December 31, 2023, Filed on January 31, 2024, <https://www.sec.gov/Archives/edgar/data/1652044/000165204424000022/goog-20231231.htm>, pp. 31, 63. In Note 2, Google divides its advertising revenues into (i) Google Search & other, “which includes revenues generated on Google search properties (including revenues from traffic generated by search distribution partners who use Google.com as their default search in browsers, toolbars, etc.), and other Google owned and operated properties like

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VI. Within the ad-supported content model, consumers prefer to see ads that are relevant to them and are willing to share information to receive personalized ads.

A. Given that consumers expect to see ads online, consumers prefer to see ads that are relevant to them.

38. As I explain above in Section V.B, consumers prefer online content to be free of charge and understand that they will see advertising online in exchange for free content. Given this expectation, consumers generally prefer to see ads that are relevant to their own interests and needs, including ads that are “personalized.”⁵⁹

39. The term “personalized ads” is broad, but generally refers to a category of ads that are targeted to consumers based on some of their characteristics.⁶⁰ These characteristics may include information about the consumer, such as their age range, gender, or zip code, as well as information about the consumer’s previous web activity, such as whether the consumer previously visited a given website.⁶¹ For example, many advertisers use a form of personalized

Gmail, Google Maps, and Google Play;” (ii) YouTube ads, “which includes revenues generated on YouTube properties;” and (iii) Google Network, “which includes revenues generated on Google Network properties participating in AdMob, AdSense, and Google Ad Manager.” In 2023, these generated revenues of \$175,033 million, \$31,510 million, and \$31,312 million, respectively, totaling \$237,855 million. As percentages, Google Search & other generated 74% ($=\$175,033/\$237,855$) of Google’s advertising revenue, while YouTube ads generated 13% ($=\$31,510/\$237,855$) of Google’s advertising revenue and Google Network generated 13% ($=\$31,312/\$237,855$) of Google’s advertising revenue.

⁵⁹ For example, a 2021 Google survey asked respondents: “If you had to choose, which type of ad would you prefer to see when you are browsing a website? You may prefer to not see any ads at all, but please let us know which of the below you would most like to see if you had to see ads.” Possible answer options were: “Personalized or relevant ads that are tailored to you based on your online search history and activity” and “Generic ads that are not tailored to you and shown to anyone who comes to the website or appl[.]”

“Google / Storyline: Quantifying User Perception and Priorities Across Their Online Experiences – Feb /22,” GOOG-AT-MDL-002934816–991 (“GOOG-AT-MDL-002934816–991”) at 856, 943; *see also* De Keyzer, Freya, Nathalie Dens, and Patrick De Pelsmacker (2015), “Is This for Me? How Consumers Respond to Personalized Advertising on Social Network Sites,” *Journal of Interactive Advertising*, 15, 2, 124–134 (“De Keyzer et al. (2015)”) at p. 131 (“Personalized advertising on [social networking sites] leads to more positive consumer responses than nonpersonalized advertising. This is mainly because personalized ads are perceived as more relevant.”); *see also* IAB 2024 Survey, p. 15 (“Personalized ads are more appealing to consumers and more likely to drive action vs. generic ads[.] Nearly nine-in-ten consumers said that they prefer ads relevant to shopping (88%) and those are the ones they’re more likely click on (87%).”).

⁶⁰ “Personalized and Non-Personalized Ads,” GOOG-AT-MDL-C-000017235–236 at 235 (“Google considers ads to be personalized when they are based on previously collected or historical data to determine or influence ad selection, including activity like previous search queries, visits to sites or apps, location, or demographic information.”).

⁶¹ “Personalized and Non-Personalized Ads,” GOOG-AT-MDL-C-000017235–236 at 235 (“Google considers ads to be personalized when they are based on previously collected or historical data to determine or influence ad selection, including activity like previous search queries, visits to sites or apps, location, or demographic information.”). Google’s “My Ad Center Help” page explains that “[p]ersonalized ads on Google” are based on “[a]ctivity saved to

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ads known as “retargeting,” where consumers who “previously viewed products on [a] firm’s website are shown ads with images of those same products [either on the same or on other websites].”⁶²

40. Survey research supports the idea that consumers generally prefer to see personalized ads as compared to ads not specifically tailored to their interests. For example, in a 2021 survey conducted by Google (“2021 Google Survey”), [REDACTED]

[REDACTED]

[REDACTED]”⁶³ In the same survey, [REDACTED]

[REDACTED]

[REDACTED]”⁶⁴ The survey also found that [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]”⁶⁵ The 2024 IAB survey found that “[p]ersonalized ads are more appealing to consumers and more likely to drive action” compared to generic ads.⁶⁶ The survey also found that 88% of respondents “prefer ads that are for products or services that they’re interested in or shopping for” and 87% of respondents “are more likely to

your Google Account, including things you’ve looked for on Google Search, videos you’ve watched on YouTube, apps you’ve installed on your Android device, ads or content you’ve interacted with,” among other factors. See “How Personalized Ads Work,” *Google Help*, <https://support.google.com/My-Ad-Center-Help/answer/12155656>.

⁶² Lambrecht, Anja and Catherine Tucker (2013), “When Does Retargeting Work? Information Specificity in Online Advertising,” *Journal of Marketing Research*, 50, 5, 561–576 at p. 561 (“Dynamic retargeting integrates these two advances [in using browsing history to inform recommendations and serve ads] by using information from the browsing history on the firm’s website to improve advertising content on external websites. When surfing the Internet, consumers who previously viewed products on the firm’s website are shown ads with images of those same products.”).

⁶³ GOOG-AT-MDL-002934816–991 at 856, 943. The 2021 Google Survey asked respondents: “If you had to choose, which type of ad would you prefer to see when you are browsing a website? You may prefer to not see any ads at all, but please let us know which of the below you would most like to see if you had to see ads.” Possible answer options were: “Personalized or relevant ads that are tailored to you based on your online search history and activity” and “Generic ads that are not tailored to you and shown to anyone who comes to the website or app.”

⁶⁴ GOOG-AT-MDL-002934816–991 at 854. The 2021 Google Survey asked respondents: “How comfortable are you with Google delivering you a personalized ad experience?” The answer options ranged from “Extremely Comfortable” to “Not Comfortable at all.”

⁶⁵ GOOG-AT-MDL-002934816–991 at 851, 921. The 2021 Google Survey asked respondents: “Which of the following best describes why you would want your ads to be personalized?” [REDACTED]

⁶⁶ IAB 2024 Survey, p. 15.

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click on ads to learn more or make a purchase for products they're interested in or shopping for.”⁶⁷

41. Academic research also supports the proposition that consumers generally prefer personalized ads to non-personalized ads and are more likely to engage with ads that are personalized.

- a. For example, Lambrecht and Tucker (2013) reported that retargeting ads can enhance consumer engagement compared to generic ads when “consumers have visited a review site and refined their product preferences.”⁶⁸
- b. Loureiro et al. (2023) conducted an online survey about consumer brand engagement and found that “perceived personalization of social media ads has a positive effect on consumer engagement.”⁶⁹
- c. De Keyzer et al. (2015) conducted an online experiment to investigate the effect of the perceived personalization of Facebook ads on consumers' responses to those ads,⁷⁰ and found that “[p]ersonalized advertising on [social networking sites] leads to more positive consumer responses [such as increased reported likelihood of clicking on the ad] than nonpersonalized advertising,” because “personalized ads are perceived as more relevant.”⁷¹
- d. In an online survey, Kim and Huh (2017) examined consumer responses to “behavioral” advertising online (i.e., advertising that is tailored based on

⁶⁷ IAB 2024 Survey, p. 15.

⁶⁸ Lambrecht, Anja and Catherine Tucker (2013), “When Does Retargeting Work? Information Specificity in Online Advertising,” *Journal of Marketing Research*, 50, 5, 561–576 at pp. 562, 574 (“Therefore, our findings suggest that dynamic retargeting is effective at encouraging consumers to purchase when consumers have visited a review site and are actively browsing other websites in the category.”).

⁶⁹ Loureiro, Sandra Maria Correia et al. (2023), “Engaging With (vs. Avoiding) Personalized Advertising on Social Media,” *Journal of Marketing Communications*, 1–22 at p. 13 (“First, the findings suggest that the perceived personalization of social media ads has a positive effect on consumer engagement while negatively impacting consumer-perceived privacy concerns. Based on the findings, personalized advertising, thus, represents an effective way to engage with consumers, particularly in the social media context.”).

⁷⁰ De Keyzer et al. (2015), p. 124 (“We study the impact of perceived personalization on consumer responses to advertising on Facebook, a popular social network site (SNS). Based on two experiments, we test a moderated mediation model with perceived relevance as the mediator and respondents' attitude toward Facebook as the moderator of the relationship between perceived personalization on the one hand and brand attitude and click intention on the other [hand].”).

⁷¹ De Keyzer et al. (2015), p. 131 (“Personalized advertising on [social networking sites] leads to more positive consumer responses than nonpersonalized advertising. This is mainly because personalized ads are perceived as more relevant”).

42. Furthermore, many consumers appreciate the relevance of personalized ads. According to the 2021 Google Survey, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED].⁷⁵ The survey's results [REDACTED]

[REDACTED]

⁷² Kim, Hyejin and Jisu Huh (2017), “Perceived Relevance And Privacy Concern Regarding Online Behavioral Advertising (OBA) and Their Role in Consumer Responses,” *Journal of Current Issues & Research in Advertising*, 38, 1, 92–105 at p. 92 (“OBA is broadly defined as ‘the practice of tracking an individual’s online activities in order to deliver advertising tailored to the consumer’s interests’ [...] OBA types vary depending on how the ad format and the type of consumer information used are combined to create ads. For example, product search, purchase history, or location data can be combined with text- or image-based banner ads.”).

⁷³ Kim, Hyejin and Jisu Huh (2017), “Perceived Relevance And Privacy Concern Regarding Online Behavioral Advertising (OBA) and Their Role in Consumer Responses,” *Journal of Current Issues & Research in Advertising*, 38, 1, 92–105 at p. 101 (“Perceived ad relevance was found to be a strong positive predictor of consumer responses to an OBA even after controlling for consumer demographics, OBA exposure frequency, time spent online, online product search frequency, attitude toward personalized advertising in general, and Internet competency. Consumers with high levels of perceived ad relevance tended to pay more attention to the ad, more positively evaluate the ad, and click on the ad.”).

⁷⁴ GOOG-AT-MDL-002934816–991 at 854.

⁷⁵ GOOG-AT-MDL-002934816–991 at 851, 921.

⁷⁶ GOOG-AT-MDL-002934816–991 at 851.

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- B. Consumers understand the ads they see are based on their personal data, and many consumers are willing to share personal data in exchange for personalized ads.**

43. Consumers largely understand that personalized ads they see are based on data collected about them, and many consumers are willing to share information with websites, apps, and companies as a result.⁷⁸ Survey evidence shows that many consumers are willing to share personal data regarding their preferences, interests, and habits in exchange for more personalized content and services, better deals, and more relevant ads.⁷⁹

- a. The 2024 IAB survey found that 73% of respondents understood that sharing their personal data enables websites and apps to show them personalized ads.⁸⁰ 69% of respondents would “share content preferences” so website or apps can send them “more of that.”⁸¹ 67% of respondents agreed that sharing data helps them find products, bargains, and services they are interested in.⁸² 66% of respondents would be willing to share their lifestyle or interests data so websites/apps can send them relevant ads.⁸³

⁷⁸ For example, Google collects information on its consumers to personalize ads, including “information about the apps, browsers, and devices [consumers] use to access Google services,” and various “types of activity” (such as “videos you watch” and “things you search for”). See “Google Privacy Policy,” *Google*, March 28, 2024, <https://policies.google.com/privacy>. As discussed further in Section VII, Google informs its consumers about this collection, so that consumers can make informed choices when customizing their ad settings.

⁷⁹ I note that consumers differ in their willingness to share data for personalized content—internal Google survey evidence.

For example, the 2021 Google Survey asked consumers “Which of the following types of information would you be comfortable sharing with Google to personalize your ad experience on Google? Select all that apply. Please note that Google does not collect every type of information listed below,” and presented consumers a list of 21 options.

MDL-002934816-991 at 907, 969. GOOG-AT-

⁸⁰ IAB 2024 Survey, p. 17 (“73% of consumers understand that sharing their personal data enables websites/apps to know more about them in order to serve personalized ads”).

⁸¹ IAB 2024 Survey, p. 18 (“I’m willing to share content preferences so website/apps can send me more of that”).

⁸² IAB 2024 Survey, p. 18 (“Sharing data helps me find products, bargains, and services I’m interested in”).

⁸³ IAB 2024 Survey, p. 18 (“I’m willing to share my lifestyle/interests data so websites/apps can send me relevant ads”).

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- b. According to Accenture’s 2018 Personalization Pulse Check report, 91% of respondents are more likely to shop with brands that remember data about them and 83% are willing to share “their data” to get personalized recommendations.⁸⁴
- c. According to a 2018 survey by BRP Consulting, a management consulting firm, 64% of consumers are fine with retailers using and saving their purchase history and preferences to allow them to deliver more personalized experiences.⁸⁵
- d. “According to an October 2020 CMO Council survey of adults worldwide, 25% [of respondents] said their main reason for sharing their data would be to receive more personalized experiences and relevant offers.”⁸⁶
- e. According to the 2021 Google Survey, [REDACTED]
[REDACTED]⁸⁷ Additionally, the study reported that users [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]⁸⁸

44. There is also evidence that consumers are willing to share personal data in exchange for usage of online services because they believe the cost of these services would be unaffordable if they started charging subscription fees. For example, the 2024 IAB survey report concludes that “[c]onsumers understand the role of their data and are willing to share it to receive personalized ads.”⁸⁹ This conclusion is derived from the result that 69% of survey respondents were “willing to share personal data to support advertising,” because otherwise they would not be able to afford

⁸⁴ *Making it Personal*, Accenture Interactive, 2018, <https://www.accenture.com/content/dam/accenture/final/a-com-migration/pdf/pdf-83/accenture-making-personal.pdf>, pp. 3–4.

⁸⁵ *2018 Customer Experience/Unified Commerce Survey*, BRP, 2018, <https://web.envistacorp.com/hubfs/BRP%20Customer%20Experience%20Unified%20Commerce%20Survey%202018%20-%20ENVISTA.pdf>, p. 10 (“Permitting retailers to save customer information if it eases the checkout process and provides more personalized experiences[.] 64% allow saving of purchase history and personal preferences[.] 61% allow saving of personal details[.]”).

⁸⁶ Survey results also show that 20% of respondents would not share their data for any reason. *See* GOOG-AT-MDL-010322108–128 at 123 (“According to an October 2020 CMO Council survey of adults worldwide, 25% said their main reason for sharing their data would be to receive more personalized experiences and relevant offers. Still, 20% said they wouldn’t share their data for any reason.”).

⁸⁷ GOOG-AT-MDL-002934816–991 at 842.

⁸⁸ GOOG-AT-MDL-002934816–991 at 842.

⁸⁹ IAB 2024 Survey, p. 17.

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the subscription fees that websites or apps might charge.⁹⁰ Similarly, a 2018 survey by Center for Data Innovation reports that when asked about online data collection and the willingness to pay for privacy, “[o]nly one in four Americans want online services such as Facebook and Google to collect less of their data if it means they would have to start paying a monthly subscription fee.”⁹¹ A 2020 survey-based study found that nearly half of survey participants stated that they would not be willing to pay (for example, via a monthly subscription fee) for an online social media service.⁹²

VII. Given varying preferences for data sharing and ad personalization, Google’s privacy controls and disclosures empower consumers to customize what they share and the types of ads they see based on their preferences.

A. Consumers vary in their preferences for sharing data about them with advertisers for personalized ads.

45. As I explain in Section V.C, Google relies on advertising to support the services that it provides free of charge to consumers. Within the ad-supported content model, many of the ads that Google serves are personalized based on information about consumers. These practices are consistent with consumer preferences for seeing personalized ads, as discussed in Section VI.A.

46. However, as noted in Section VI.B, not all consumers share the same preferences for advertising and personalization, nor for the information they wish to share to receive personalized ads. While consumers generally prefer to see ads that are relevant to their interests and needs, they differ with respect to the kinds of personalized ads they wish to see and how much of their information they want used for personalization. For example, the 2021 Google Survey found that [REDACTED] of Google users were [REDACTED]

⁹⁰ IAB 2024 Survey, p. 17.

⁹¹ “Survey: Few Americans Willing to Pay for Privacy,” *Center for Data Innovation*, January 16, 2019, <https://datainnovation.org/2019/01/survey-few-americans-willing-to-pay-for-privacy/>.

⁹² Sindermann, Cornelia et al. (2020), “Should We Pay for Our Social Media/Messenger Applications? Preliminary Data on the Acceptance of an Alternative to the Current Prevailing Data Business Model,” *Frontiers in Psychology*, 11, 1415 at pp. 4–5 (“In the present sample, approximately one-fifth of the participants (21.43%) stated they were willing to pay money (e.g., via a monthly subscription fee) for a social media online service. Of the participants, 29.05% were indecisive, whereas nearly half of the users stated that they were not willing to pay for such a service. This shows that paying money for social media in order to heighten privacy standards and reduce related problems such as radicalization finds no acceptance in a fairly large proportion of our investigated sample.”).

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[REDACTED]

[REDACTED] 93

B. Google provides consumers with the ability to control how ads are personalized in a manner that is consistent with varying consumer preferences.

47. Consistent with the fact that consumers differ in their privacy preferences, Google provides all consumers—including consumers who do not have a Google account—with tools that allow them to control the information they share with Google and with third parties, to customize the kinds of ads they see, and to change their settings as desired. When users have different preferences, deciding which options to present—and how to present them—is a complex question in interface design. Users who wish to change their settings may have a range of specific preferences. At the same time, some users may wish not to review their settings at all. Providing all the options needed to cater to every consumer may result in an overwhelming number of choices that confuses consumers and diminishes online experiences.⁹⁴ A well-designed application needs to accommodate diverse preferences without becoming too complicated for consumers to use.

48. “Progressive disclosure,” also known as the “training wheels” approach, is a long-standing approach to interface design that accommodates diverse consumer preferences.⁹⁵ Under progressive disclosure, the most important information and options are presented first, with additional details or more sophisticated options available on secondary screens.⁹⁶ By presenting the most important features first, progressive disclosure acts to minimize potential confusion and

⁹³ GOOG-AT-MDL-002934816–991 at 854.

⁹⁴ Galitz, Wilbert O. (2007), *The Essential Guide to User Interface Design: An Introduction to GUI Design Principles and Techniques*, Third Edition, Indianapolis, IN: Wiley Publishing (“Galitz (2007)”), p. 56 (“Complexity is a measure of the number of choices available at any point in the human-computer interaction. A great deal of functionality and power is usually associated with high complexity. Complexity most often overwhelms and confuses new and casual users of systems.”).

⁹⁵ Galitz (2007), pp. 56–57. *See also*, Carroll, John M. and Carrithers, Caroline (1984), “Training Wheels in a User Interface,” *Communications of the ACM*, 27, 8, 800–806.

⁹⁶ “Progressive Disclosure,” *Nielsen Norman Group*, December 3, 2006, www.nngroup.com/miicles/progressive-disclosure/; “Progressive Disclosure,” *Interaction Design Foundation*, <https://www.interaction-design.org/literature/topics/progressive-disclosure>.

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cognitive load for users who may not wish to access more advanced features.⁹⁷ At the same time, progressive disclosure allows users who wish to learn more to access more sophisticated features.⁹⁸ In fact, progressive disclosure can even *encourage* advanced exploration of the interface: interfaces that use progressive disclosure give users the opportunity to encounter the most important features without being overwhelmed, which may motivate users to explore further if they so desire.⁹⁹

49. Consistent with best practices, Google provides ad personalization controls to consumers by applying the principles of progressive disclosure, where the most important information and options are presented first, with additional details or more sophisticated options available on secondary screens.¹⁰⁰ Applying the principles of progressive disclosure is a best practice because, as I discuss above, consumers have individualized and context-dependent privacy preferences and expectations and, as a result, there is no single fixed user interface that will work for every consumer in every context.

50. As an initial matter, Google provides an “About this Ad” feature, which consumers can access whenever they see an ad served by Google on the web or in an app.¹⁰¹ Ads served by Google feature an icon (typically located in the top right corner of the ad), which, when clicked, shows an “Ads served by Google” panel, which in turn provides a “Why this ad?” hyperlink. An example ad and resulting “Ads served by Google” panel are shown in Exhibit 1 below.

⁹⁷ Galitz (2007), pp. 56–57 (“[Progressive disclosure] was first described by Carroll and Carrithers (1984) who called it the ‘Training-Wheels System.’ They found that disabling portions of the system that were not needed and could lead to errors and confusion improved system learning efficiency.”); “Minimize Cognitive Load to Maximize Usability,” *Nielsen Norman Group*, December 23, 2013, <https://www.nngroup.com/articles/minimize-cognitive-load/> (“In the field of user experience, we use the following definition: the cognitive load imposed by a user interface is the amount of mental resources that is required to operate the system [...] Designers should, however, strive to eliminate, or at least minimize, extraneous cognitive load: processing that takes up mental resources, but doesn’t actually help users understand the content [...] Many of our top usability guidelines – from chunking content to optimizing response times – are aimed at minimizing cognitive load.” (emphasis removed)).

⁹⁸ Galitz (2007), p. 56 (“Progressive disclosure. Introduce system components gradually so the full complexity of the system is not visible at first encounter. Teach fundamentals first. Then, slowly introduce advanced or more sophisticated functions. This is called the layered, or spiral, approach to learning.”).

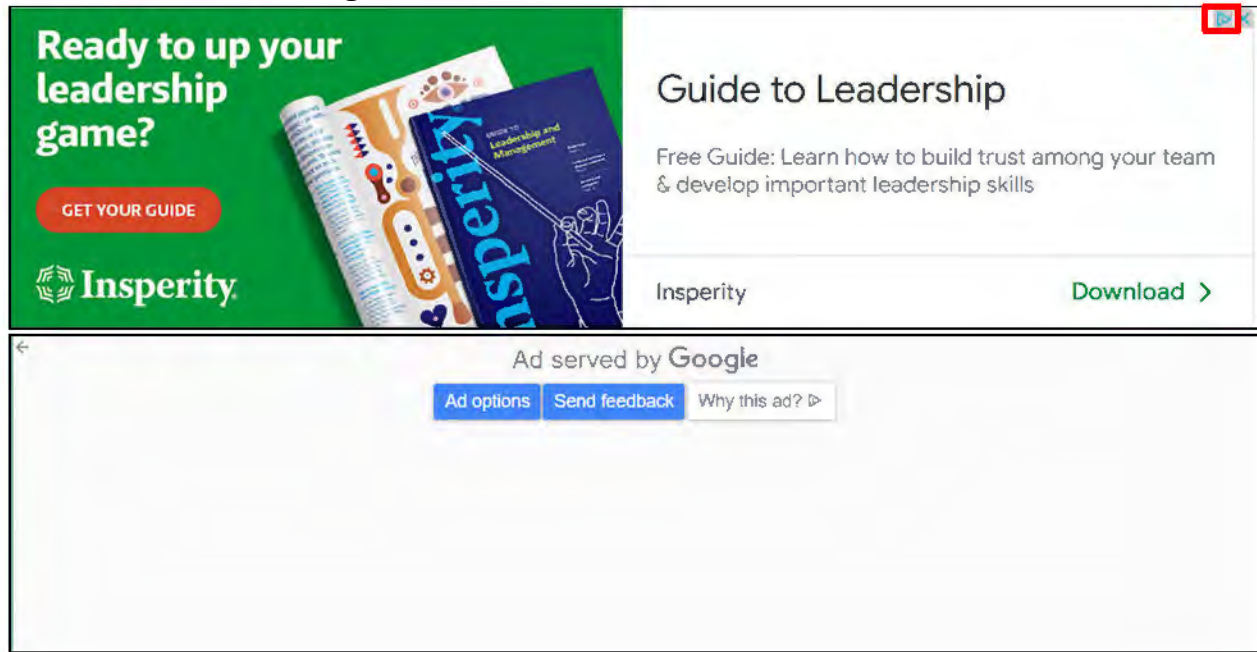
⁹⁹ Galitz (2007), p. 56–57.

¹⁰⁰ “Progressive Disclosure,” *Nielsen Norman Group*, December 3, 2006, www.nngroup.com/articles/progressive-disclosure/; “Progressive Disclosure,” *Interaction Design Foundation*, <https://www.interaction-design.org/literature/topics/progressive-disclosure>.

¹⁰¹ “Control the Ads You See When You See Them,” *Google Help*, <https://support.google.com/My-Ad-Center-Help/answer/12155764> (“You can open About this Ad directly on the ads you see on partner sites and apps. Partner sites and apps use Google technology to show ads and are neither owned nor operated by Google. Not every website or app uses Google technology to show ads. Many sites and apps use other ad platforms to show ads.”).

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Exhibit 1 Example Display Ad and “Ads served by Google” Panel When Not Signed Into a Google Account



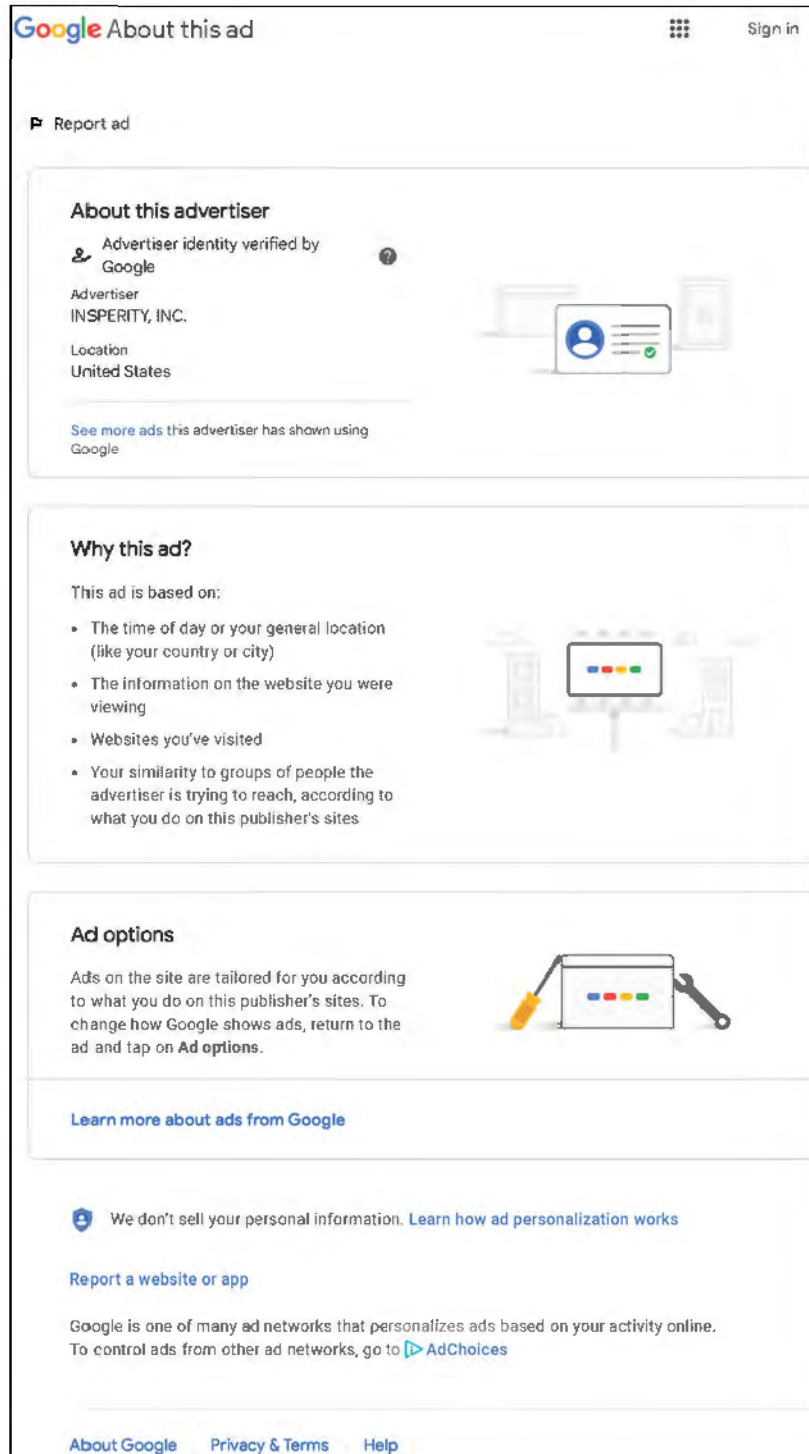
Source: “Olympics,” *The Dallas Morning News*, <https://www.dallasnews.com/topic/olympics/>.

Note: The “Ads by Google” panel is accessed by clicking on the triangle icon (highlighted in red) on the display ad. The “Ads served by Google” panel is shown when the consumer is not signed into a Google account.

51. The “Why this ad?” hyperlink leads to Google’s “About this Ad” screen, where consumers can see information about why the ad in question is being shown to them and what data is used to personalize the ad selection. Consistent with best practices, the “About this Ad” page provides users with summary information about their settings and information sharing and allows consumers to access additional details and controls if desired. The configuration of the “About this ad” page varies depending on whether the consumer is signed into a Google account or not. Exhibit 2 below shows an example of how the “About this Ad” page appears when the consumer is not signed into a Google account.

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Exhibit 2 Google's "About this Ad" Page When Not Signed Into a Google Account



Source: Google.

Note: The "About this ad" page was arrived at by clicking "Why this ad?" on a Google-served ad displayed on the website <https://www.dallasnews.com/topic/olympics/>.

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52. As Exhibit 2 shows, the “About This Ad” page presented to a consumer who is not signed into a Google account provides the consumer with summary information about why the ad was shown and, consistent with progressive disclosure, provides hyperlinks to more information and advanced settings:

- a. The “About this advertiser” section of the page provides summary information to consumers about the advertiser who placed the ad and provides a hyperlink that allows the consumer to “See more ads” placed by the advertiser.
- b. The “Why this ad?” section of the page provides information to consumers on *why* they are served a specific ad and on *what types* of information are being collected and used to serve them personalized ads.¹⁰² In the example shown in Exhibit 2, the consumer is informed that the specific ad is being shown based on several factors, including the “time of day,” the consumer’s “general location,” the website that is being viewed, other websites the consumer has visited, and the consumer’s “similarity to groups of people the advertiser is trying to reach” based on the consumer’s activity on the publisher’s websites.
- c. The “Ad options” section of the page provides the consumer with summary information on their ad settings (in this case, the consumer is told that “[a]ds on this site are tailored [...] according to what [the consumer does] on this publisher’s sites”), and with instructions on how to change their ad preferences.
- d. The “About this ad” page also provides the consumer with summary information about how Google uses consumer data and, consistent with progressive disclosure, provides hyperlinks (labeled “Learn more about ads from Google” and “Learn how ad personalization works”) to pages with more detailed information on how Google serves personalized ads.¹⁰³

53. Exhibit 3 shows an example of how the “About this ad” page appears when the consumer is signed into a Google account.¹⁰⁴ As Exhibit 3 shows, this page is similar to the page shown to

¹⁰² See Exhibit 2.

¹⁰³ See “How Personalized Ads Work,” *My Ad Center Help*, <https://support.google.com/My-Ad-Center-Help/answer/12155656>.

¹⁰⁴ I understand that the precise configuration of the “About this ad” page seen can vary from ad to ad.

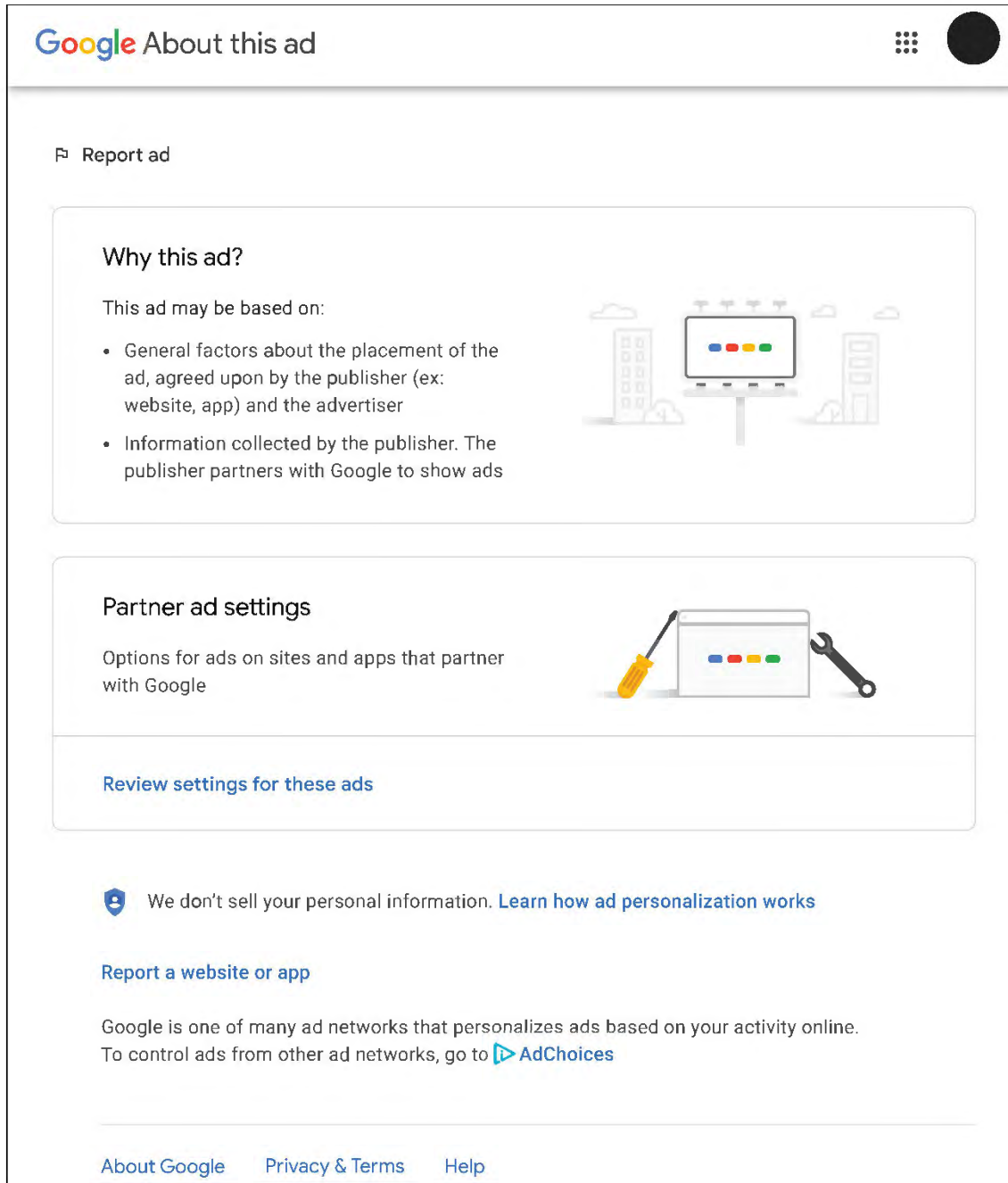
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non-signed-in consumers (displayed in Exhibit 2), with some differences. One difference between Exhibit 2 and Exhibit 3, for example, is that the “Ad options” pane is replaced by a “Partner ad settings” section, which provides a hyperlink (labeled “Review settings for these ads”) that takes the consumer to a “Partner ad settings” page, where the consumer can turn on or off personalized ads on Google “sites that partner with Google,” and can change settings related to how ads on Google these sites are personalized.¹⁰⁵

¹⁰⁵ See “Personalized Ads on Sites that Partner with Google,” *Google Partner Ad Settings*, <https://adssettings.google.com/partnerads?ref=ata&ref-ctx=display&hl=en>.

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Exhibit 3 Google's "About this Ad" Page When Signed Into a Google Account



Source: Google.

Note: The "About this ad" page was arrived at by clicking "Why this ad?" on a Google-served ad displayed on the website <https://www.dallasnews.com/topic/olympics/>.

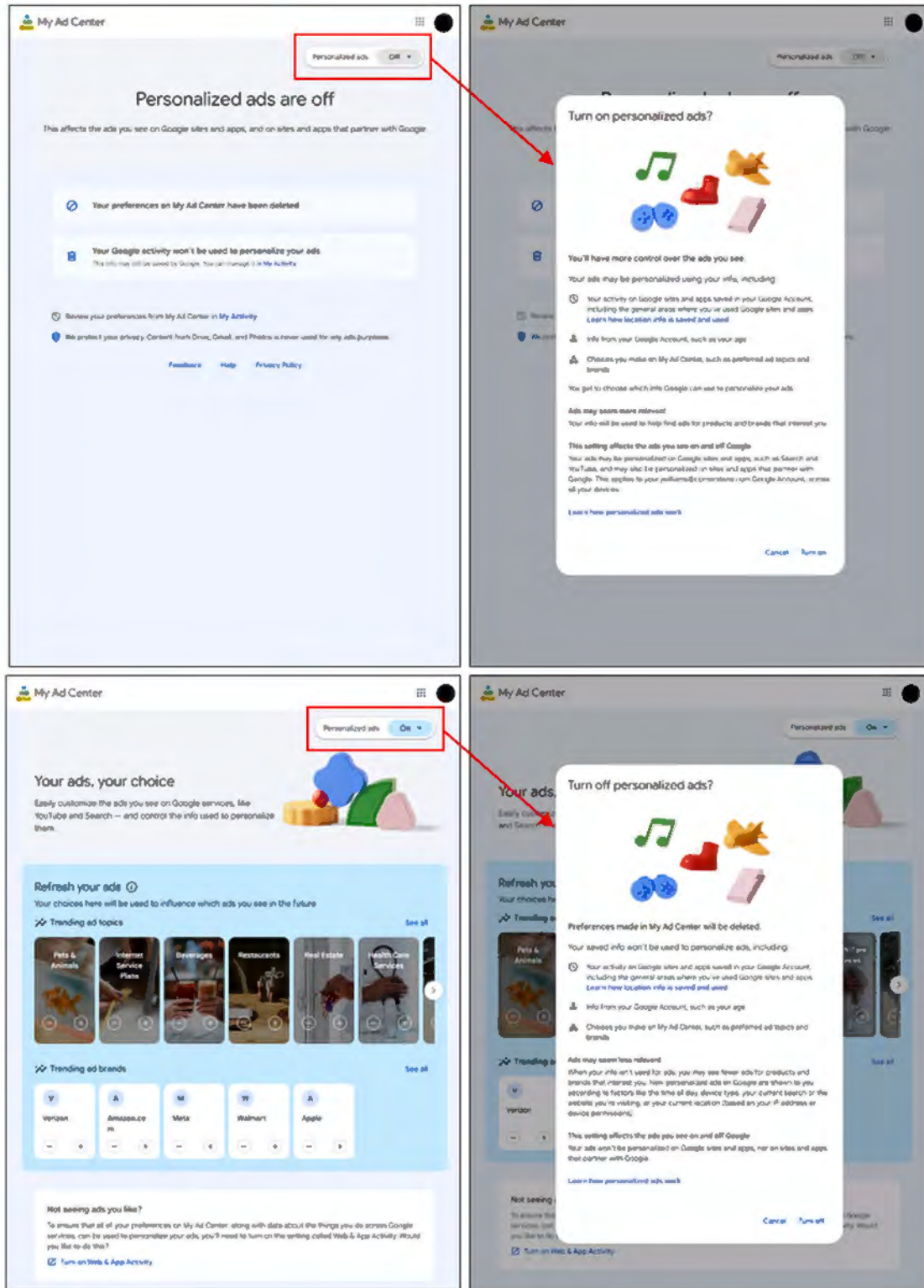
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54. In addition to the “About this ad” page, for Google account holders specifically, Google also provides the “My Ad Center” feature, which provides Google account holders with additional controls over the personalized ads they see. The “My Ad Center” feature provides Google account holders the option to “Turn on” or “Turn off” personalized ads and also to customize the ad personalization experience, both for ads shown on Google’s own sites, such as Google Search and YouTube, and on Google “partner” sites (i.e., sites that use Google services to serve ads).¹⁰⁶ Screenshots of the “My Ad Center” page are shown in Exhibit 4 below.

¹⁰⁶ Google also provides consumers without a Google account (or consumers who are signed out of their account) the option to turn off personalized ads through an “Ad Settings” page. *See* “Settings for Personalized Ads,” *Google Ad Settings*, <https://adssettings.google.com/anonymous>. Users must be signed out of their Google accounts to access this webpage. *See also*, “How Personalized Ads Work,” *Google Help*, <https://support.google.com/My-Ad-Center-Help/answer/12155656>.

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Exhibit 4 Google's "My Ad Center" Setting for Turning On and Off Personalized Ads



Source: "My Ad Center," *Google My Ad Center*, <https://myadcenter.google.com/>.

Note: Users must be signed into their Google accounts to see these webpages.

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55. Consumers opting to turn personalized ads on or off on the “My Ad Center” page are shown confirmation panes (labeled “Turn on personalized ads?” and “Turn off personalized ads?” respectively), as shown in Exhibit 4. Consistent with progressive disclosure, these confirmation panes provide consumers with summary information on the consequences of turning on or off personalized ads, as well as hyperlinks to pages that contain more details:

- a. These “Turn on personalized ads?” and “Turn off personalized ads?” confirmation panes provide the consumer with information on how data about the consumer will or will not be used to personalize ads (“Your ads may be personalized using your info [...]” or “Your saved info won’t be used to personalize ads [...]”).¹⁰⁷
- b. The confirmation panes provide hyperlinks (labeled “Learn how location info is saved and used” and “Learn how personalized ads work”) to pages where the consumer can access more detailed information on ad personalization.¹⁰⁸

56. Using the “My Ad Center” page, consumers with ad personalization turned on can customize their personalized ad experience, by, for example, selecting which brands and topics they want to see more or less of in advertisements served by Google and can “delete the activity data tied to [their] account.”¹⁰⁹ For example, as illustrated in Exhibit 5 below, a hypothetical Google account holder can use “My Ad Center” to simultaneously choose not to see ads about “Alcohol” or “Dating.” Exhibit 5 also shows how Google account holders can use “My Ad Center” to decide whether they want to allow their “Web & App Activity,” “YouTube History,”

¹⁰⁷ See Exhibit 4.

¹⁰⁸ See Exhibit 4. See also, “How Google Uses Location Information,” *Google Privacy & Terms*, <https://policies.google.com/technologies/location-data>; “How Personalized Ads Work,” *My Ad Center Help*, <https://support.google.com/My-Ad-Center-Help/answer/12155656>.

¹⁰⁹ “Ads that Respect Your Privacy,” *Google Safety Center*, <https://safety.google/privacy/ads-and-data/> (“My Ad Center allows you to customize your ad experiences on Google Search, Discover and YouTube to see more of the brands and topics you like and less of the ones you don’t [...] You can turn off ads personalization altogether and also permanently delete the activity data tied to your account at any time with the data and privacy settings.”). See also, “Customize Your Ads Experience,” *Google Help*, <https://support.google.com/My-Ad-Center-Help/answer/12155451>. “My Ad Center” lets consumers customize their ad experience on both websites and on applications. See “Your Ads, Your Choice,” *Google*, October 20, 2022, <https://blog.google/technology/safety-security/my-ad-center/> (“My Ad Center was designed to give you more control over your ad experience on Google’s sites and apps. When you’re signed into Google, you can access My Ad Center directly from ads on Search, YouTube and Discover, and choose to see more of the brands and topics you like and less of the ones you don’t [...] Instead, you can manage your ad preferences without interrupting what you’re doing online [...] You can also turn off ads personalization completely. My Ad Center makes this control easy to find by putting it front-and-center in the product. If you choose not to see personalized ads, you’ll still see ads, but you may find them less relevant or useful. This will apply anywhere you’re signed in with your Google Account.”).

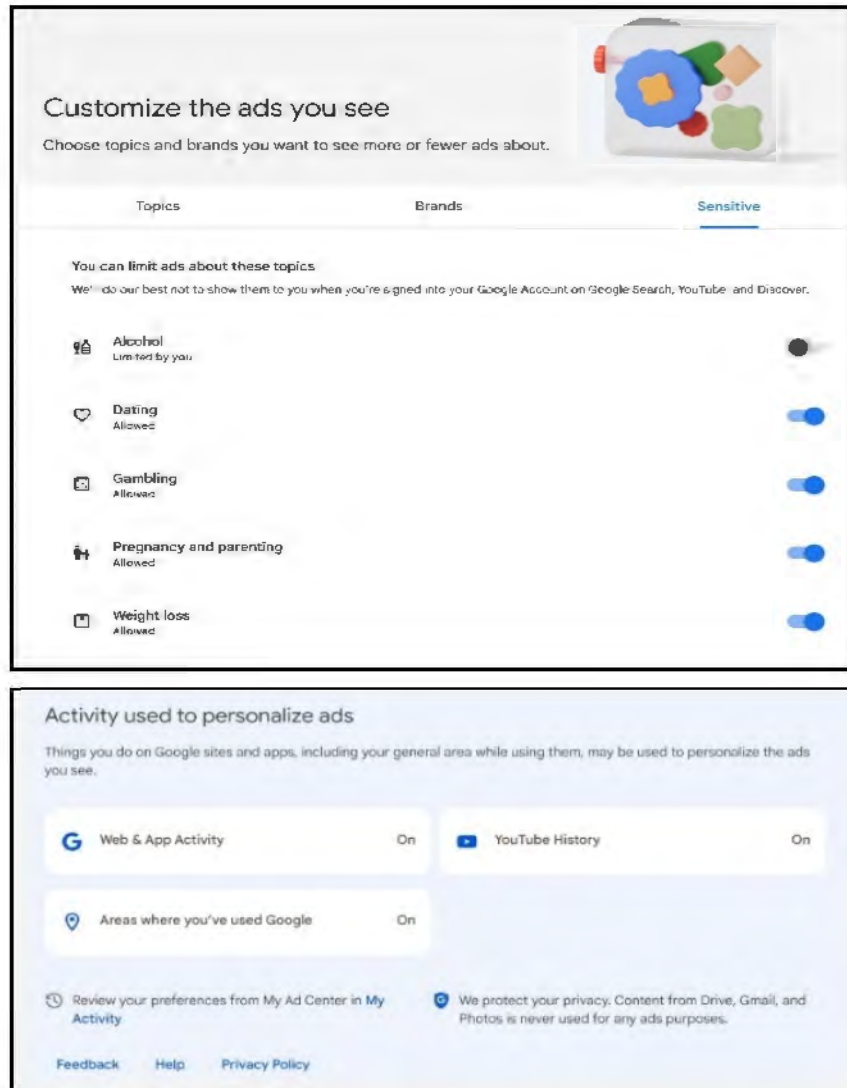
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or location history to be used by Google to personalize ads they see when using Google services.¹¹⁰

¹¹⁰ “Control the Info Used for Ads,” *Google My Ad Center*, <https://myadcenter.google.com/controls>. Users must be signed into their Google accounts to see this webpage.

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Exhibit 5 Google “My Ad Center” Controls for Customizing Ads Seen by Google Account Holders



Source: “My Ad Center,” *Google My Ad Center*, <https://myadcenter.google.com/>.

Note: Users must be signed into their Google accounts to see these webpages.

57. In addition to the “My Ad Center” feature, Google also provides a broader “My Google Activity” page within a consumer’s Google account settings, which allows Google account holders to adjust whether and how their search history is used for personalization, at a granular level down to an individual search.¹¹¹ The “My Google Activity” page allows Google account

¹¹¹ “My Google Activity,” *Google My Activity*, <https://myactivity.google.com/myactivity>. Users must be signed into their Google account to access the webpage. *See also*, “Privacy Tools That Put You in Control,” *Google Safety*

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holders to “decide what types of activity are tied to [their] account to personalize [their] experience across Google services,” and to “pause specific types of data from being saved in [their] account.”¹¹² The “My Google Activity” provides Google account holders with the ability to control whether Google information such as sites visited, apps used, search history, and location to personalize ads. The “My Google Activity” page also allows Google account holders to control which of these types of information Google stores, and to delete information that Google may have already gathered.¹¹³

58. Exhibit 6 below presents an example of the “Activity Controls” on the “My Google Activity” page. Through its privacy policy, discussed in Section VII.C, Google explains to consumers that the “Activity Controls” page can be used to control what specific information about the consumer’s activity, including “[a consumer’s] activity on other sites, apps, and devices,” is saved.¹¹⁴

Center, <https://safety.google/privacy/privacy-controls/> (“My Activity is the central place where you can find everything you’ve searched, viewed, and watched using our services. [...] You can permanently delete specific activities or even entire topics that you don’t want associated with your account.”).

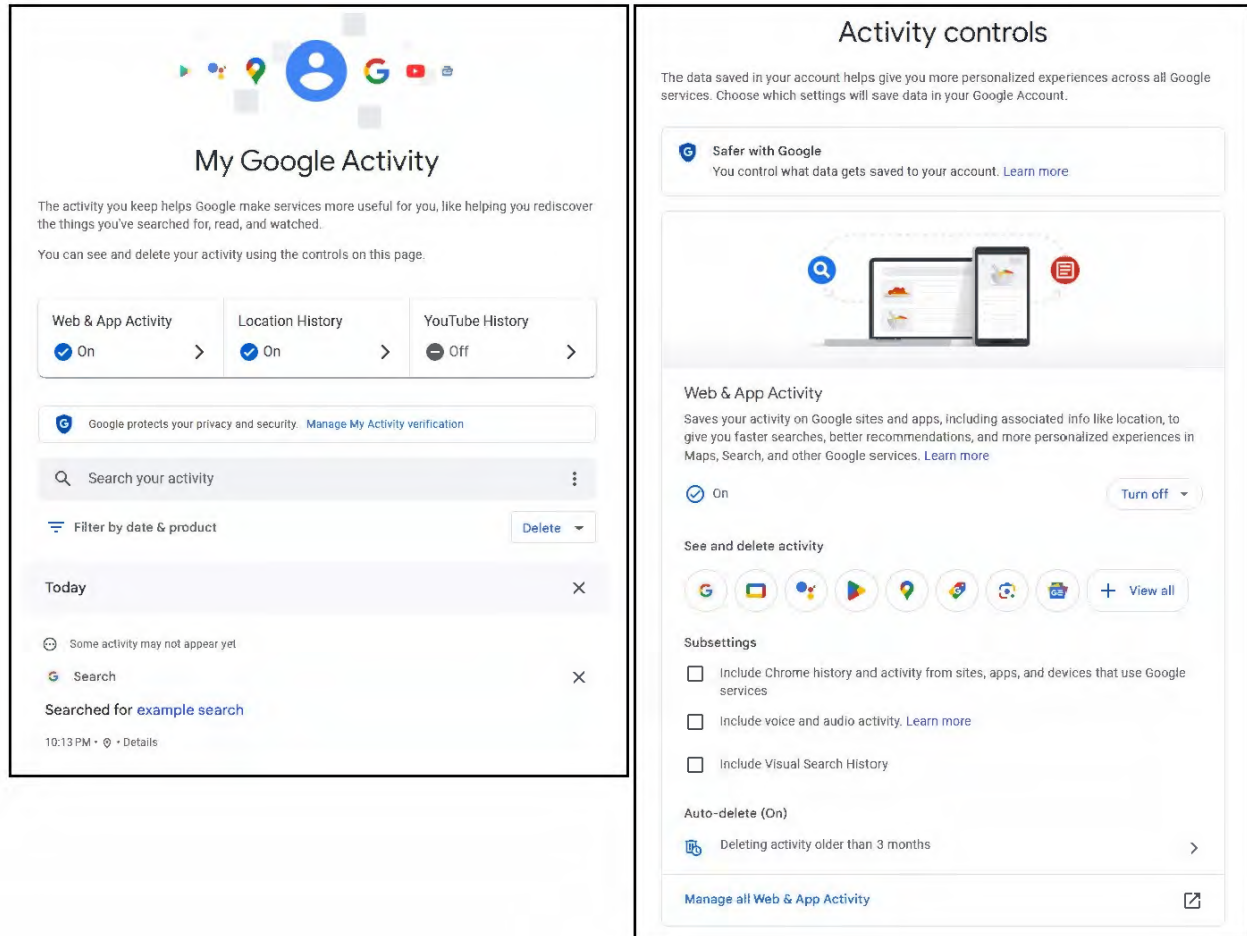
¹¹² “Privacy Tools That Put You in Control,” *Google Safety Center*, <https://safety.google/privacy/privacy-controls/>.

¹¹³ “Ads That Respect Your Privacy,” *Google Safety Center*, <https://safety.google/privacy/ads-and-data/> (“We use your activity on Google – like sites you visit, apps you use, and things you’ve searched for, and associated information like location – to deliver better, more helpful experiences across our products, including ads. We never use sensitive information such as health, race, religion or sexual orientation to tailor the ads you see. And we don’t use data from Drive, Gmail and Photos for ads, either.”); “Delete Your Activity,” *Google Help*, <https://support.google.com/accounts/answer/465> (“When you use Google sites, apps, and services, some of your activity is saved in your Google account. You can find and delete this activity in My Activity, and you can stop saving most activity at any time.”).

¹¹⁴ Google Privacy Policy,” *Google*, March 28, 2024, <https://policies.google.com/privacy>. Prior to 2022, the “Activity Controls” section of Google’s privacy policy had similar language with more specific examples of the types of activity. *See* “Google Privacy Policy,” *Google*, May 25, 2018, <https://policies.google.com/privacy/archive/20180525> (“Decide what types of activity you’d like saved in your account. For example, you can turn on Location History if you want traffic predictions for your daily commute, or you can save your YouTube Watch History to get better video suggestions.”); *see also* “Google Privacy Policy,” *Google*, February 10, 2022, <https://policies.google.com/privacy/archive/20220210>.

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Exhibit 6 Google’s “My Google Activity” and “Activity Controls” pages



Source: “My Google Activity,” *Google My Activity*, <https://myactivity.google.com/myactivity>.

Note: These pages are only visible to Google account holders who are signed into their account.

59. Survey results from Google’s own research suggest that [REDACTED] [REDACTED] For example, the 2021 Google Survey found that [REDACTED]

[REDACTED]¹¹⁵ As noted above, if a consumer prefers to not share their data at all (and not receive

¹¹⁵ GOOG-AT-MDL-002934816–991 at 825.

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personalized ads), Google allows both Google account holders and non-account holders to simply turn off ad personalization.¹¹⁶

C. Google provides consumers with information about ad personalization and data sharing in a manner that is consistent with varying consumer preferences.

60. As well as providing consumers with controls over information sharing and ad personalization, Google also notifies consumers about what information it collects and how that information is used, which enables consumers to make informed decisions when customizing their settings. As with the ad personalization controls, discussed in Section VII.B above, Google applies progressive disclosure principles in its user-interfaces when presenting information on data sharing and ad personalization to consumers by providing the most important information upfront in more prominent positions and by providing hyperlinks to secondary pages with more detailed information. This way, Google can accommodate users' various preferences about the collection and use of their data and allows users to control, manage, and update their settings if they choose to do so based on their preferences.

61. Consistent with progressive disclosure, Google provides consumers with information about data sharing in contexts where the information is most relevant, such as immediately after viewing a personalized ad. For example, Google's "About this ad" page, discussed in Section VII.B above, provides consumers with summary information about data sharing and provides a hyperlink (labeled "Learn how ad personalization work") to the "Ads and data" pane on Google's "Safety Center" site, where consumers can see additional detail on how Google collects and uses consumer data for personalized ads.¹¹⁷

62. Google's "About this ad" page, shown in Exhibits 2 and 3 above, also provides a hyperlink (labeled "Privacy & Terms") that leads to Google's Privacy Policy.¹¹⁸ Google's

¹¹⁶ "Ads That Respect Your Privacy," *Google Safety Center*, <https://safety.google/privacy/ads-and-data/> ("My Ad Center allows you to customize your ad experiences on Google Search, Discover and YouTube to see more of the brands and topics you like and less of the ones you don't. [...] You can turn off ads personalization altogether and also permanently delete the activity data tied to your account at any time with the data and privacy settings."); Non-account holders can turn off/on ad personalization directly through Google Ad Settings. See "Settings for Personalized Ads," *Google Ad Settings*, <https://adssettings.google.com/anonymous>.

¹¹⁷ "Ads That Respect Your Privacy," *Google Safety Center*, <https://safety.google/privacy/ads-and-data/>.

¹¹⁸ See Exhibit 2.

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Privacy Policy, including all versions of the policy since 1999,¹¹⁹ provides details about the kinds of information Google collects about its users, including “information about the apps, browsers, and devices [consumers] use to access Google services,” and various “types of activity” (such as “videos you watch” and “things you search for”), and explains that consumers can customize the kinds of personalized ads they see, as well as the data used for personalization.¹²⁰

63. Google provides consumers with links to the Privacy Policy in multiple relevant locations, including the Google homepage and on Google search results.¹²¹ Google’s “How our business works” page, shown in Exhibit 7 below and accessible via Google’s “About Google” page (in turn accessible from the Google home page), also provides users with information about how data may or may not be shared by Google with advertisers and other third-parties.¹²² For example, the “How our business works” page explains that:

- a. Google does not share “personal information, such as [a consumer’s] name or email” with advertisers, unless the consumer “ask[s] [Google] to...”¹²³
- b. Google does not use “emails, documents, photos, or sensitive information like race, religion, or sexual orientation, to personalize ads...”¹²⁴

¹¹⁹ Google has periodically updated this privacy policy and for full transparency it maintains a page with all previous versions. “Updates: Privacy Policy,” *Google*, <https://policies.google.com/privacy/archive>.

¹²⁰ “Google Privacy Policy,” *Google*, March 28, 2024, <https://policies.google.com/privacy>. My Ad Center was introduced in October 2022 to give consumers “more control over [their] ad experiences on Google’s sites and apps. See “Your Ads, Your Choice,” *Google*, October 20, 2022, <https://blog.google/technology/safety-security/my-ad-center>. Prior to 2022, Google’s privacy policy noted the “Ad Settings” feature for similar settings. See “Google Privacy Policy,” *Google*, May 25, 2018, <https://policies.google.com/privacy/archive/20180525>; “Google Privacy Policy,” *Google*, December 15, 2022, <https://policies.google.com/privacy/archive/20221215>.

¹²¹ On a Google search results page, consumers who are logged into a Google account can click “Manage Account” to reach a page with a link to the Privacy Policy and consumers who are not logged into a Google account, can click “Search Settings” to see a link to the Privacy Policy.

¹²² “How Our Business Works,” *Google*, <https://about.google/how-our-business-works/>. Google has had the same language about how information about consumers may be shared with advertisers on its webpage since at least February 2020. See “How Our Business Works,” *Google*, <https://web.archive.org/web/20200220202923/https://about.google/how-our-business-works/>.

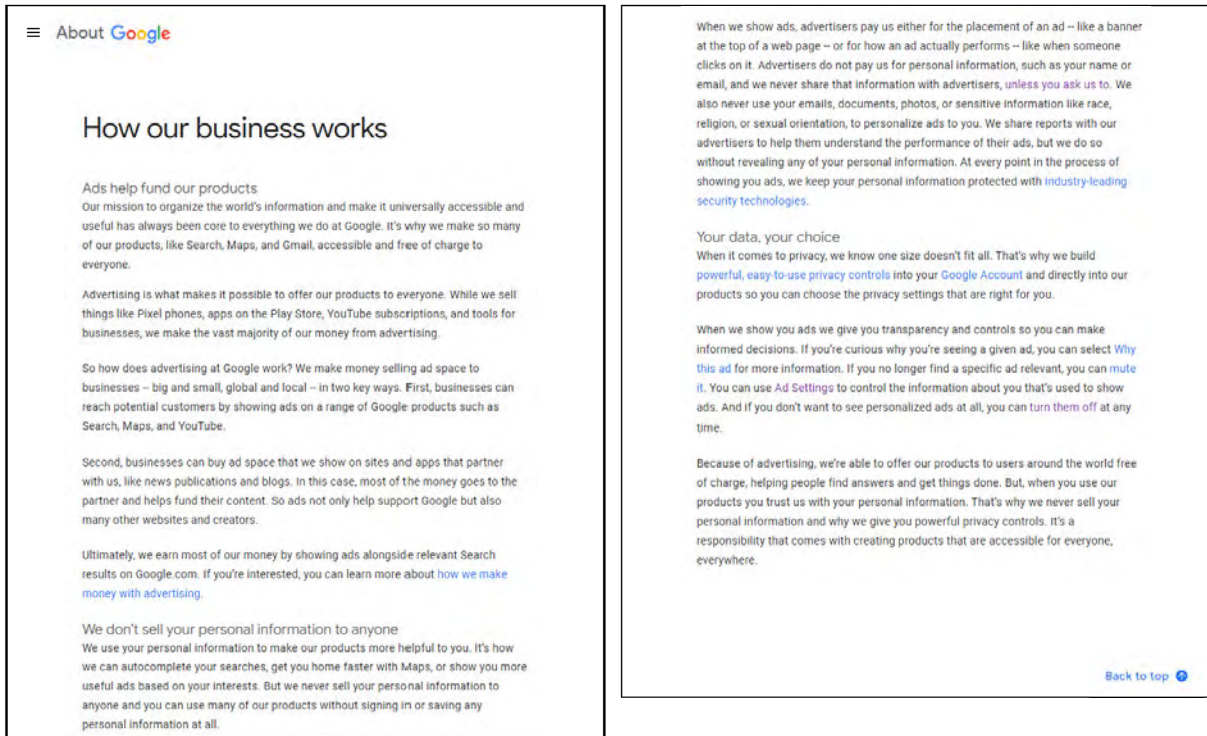
¹²³ “How Our Business Works,” *Google*, <https://about.google/how-our-business-works/>. Google has had the same language about how information about consumers may be shared with advertisers on its webpage since at least February 2020. See “How Our Business Works,” *Google*, <https://web.archive.org/web/20200220202923/https://about.google/how-our-business-works/>.

¹²⁴ “How Our Business Works,” *Google*, <https://about.google/how-our-business-works/>. Google has had the same language about how information about consumers may be shared with advertisers on its webpage since at least February 2020. See “How Our Business Works,” *Google*, <https://web.archive.org/web/20200220202923/https://about.google/how-our-business-works/>.

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- c. Google “share[s] reports with [its] advertisers to help them understand the performance of their ads, but [does so] without revealing any of [a consumer’s] personal information.”¹²⁵

Exhibit 7 Google’s “How our business works” Page



Source: “How Our Business Works,” *Google*, <https://about.google/how-our-business-works/>

64. Consistent with the principles of progressive disclosure, the “How our business works” page provides hyperlinks to pages with additional details, such as a hyperlink to a specific section of the Privacy Policy, which explains how Google uses the data it collects.¹²⁶ The “How

¹²⁵ “How Our Business Works,” *Google*, <https://about.google/how-our-business-works/>. Google has had the same language about how information about consumers may be shared with advertisers on its webpage since at least February 2020. See “How Our Business Works,” *Google*, <https://web.archive.org/web/20200220202923/https://about.google/how-our-business-works/>.

¹²⁶ “We Use Data to Build Better Services,” *Google*, <https://policies.google.com/privacy?hl=en-US#whycollect>.

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our business works” page also links to the ad personalization settings pages described in Section VII.B, including, for example, the “My Ad Center” page.¹²⁷

65. Also consistent with progressive disclosure, the description of Google’s information sharing practices provided on the “How our business works” page is a non-technical summary,¹²⁸ while Google provides consumers with additional technical detail on how information is passed to third parties on other pages, such as its “Introduction to real-time bidding” support page.¹²⁹

D. Changes made by Google to certain data files in 2019 are consistent with consumer preferences regarding how their data are shared.

66. I understand that, in 2019, Google made changes to certain data files that it shares with certain publishers as part of its ad auction process.¹³⁰ I also understand that the 2019 changes prevented publishers from combining certain of these files and therefore prevented data in these files from being tied to individual users.¹³¹ The inability to tie data to specific consumers is consistent with consumer preferences. Specifically, there is evidence from academic literature that consumers generally prefer, when data about them is shared with others, that the data cannot be tied back to them or used to identify them, and consumers are more willing to share data when it is shared in this way. For example, Schomakers et al. (2020) conducted a survey to assess factors affecting consumer’s willingness to share their data with others and found that a greater level of anonymization of data led to an increased willingness to share.¹³² Valdez and Ziefle

¹²⁷ Users must be signed in to their Google account to link to the “My Ad Center” page from the “How our business works” page.

¹²⁸ Galitz (2007), p. 56 (“Progressive disclosure. Introduce system components gradually so the full complexity of the system is not visible at first encounter. Teach fundamentals first. Then, slowly introduce advanced or more sophisticated functions. This is called the layered, or spiral, approach to learning.”).

¹²⁹ Declaration of [REDACTED], *In Re: Google Digital Advertising Antitrust Litigation*, United States District Court for the Southern District of New York, Case No. 1:21-md-3010-PKC, June 28, 2024 (“[REDACTED] Declaration”), ¶¶ 10–14; “Introduction to Real-Time Bidding (RTB),” *Google Help*, <https://support.google.com/authorizedbuyers/answer/6136272?hl=en>.

¹³⁰ [REDACTED] Declaration, ¶¶ 10–14.

¹³¹ “Rolling Out First Price Auctions to Google Ad Manager Partners,” *Google*, <https://blog.google/products/admanager/rolling-out-first-price-auctions-google-ad-manager-partners/>.

¹³² Schomakers et al. (2020) define the level of anonymity as the size of the group of people from whom the given individual cannot be distinguished, where a larger group means a greater level of anonymity. *See* Schomakers, Eva-Maria, Chantal Lidynia, and Martine Ziefle (2020) “All of Me? Users’ Preferences for Privacy-Preserving Data Markets and the Importance of Anonymity,” *Electron Markets*, 30, 649–665 at pp. 650–651, 658–661.

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(2019), relying on the results of a similar study, also found that consumers have a “preference for higher anonymity when [...] sharing data” in the context of a healthcare service.¹³³

Executed on July 30, 2024,

A handwritten signature in black ink, reading "Donna L. Hoffman". The signature is written in a cursive, flowing style.

Donna L. Hoffman, Ph.D.

¹³³ Valdez, Calero A. and Martina Ziefle (2019), “The Users’ Perspective on the Privacy-Utility Trade-Offs in Health Recommender Systems,” *International Journal of Human-Computer Studies*, 121, 108–121 at pp. 113–116.

DONNA L. HOFFMAN

George Washington University
School of Business
2201 G St NW #304
Washington, DC 20052

email: dlhoffman@gwu.edu
web: <http://postsocial.gwu.edu>
voice: 202-994-3137

Education

Ph.D., L.L. Thurstone Psychometric Laboratory, University of North Carolina, Chapel Hill, NC, 1984. (Quantitative Psychology with Formal Minor in Marketing from Graduate School of Business Administration.)

M.A., L.L. Thurstone Psychometric Laboratory, University of North Carolina, Chapel Hill, NC, 1980. (Quantitative Psychology.)

A.B., University of California, Davis, California, 1978. (Psychology.)

Academic Appointments

The George Washington University, July 1, 2013-present

Louis Rosenfeld Distinguished Scholar and Professor of Marketing
Co-Director, Center for the Connected Consumer

University of California, Riverside, 2006-2013

Albert O. Steffey Chair of Marketing (2011-2013); Chancellor's Chair (2006-2011)
Co-Director, UCR Sloan Center for Internet Retailing
Department Chair, Management and Marketing (2006-2011)
Cooperating Faculty, Department of Psychology (2007-2013)

Vanderbilt University

Professor of Marketing, 2000-2006.
Co-Director, Vanderbilt University Sloan Center for Internet Retailing, 2003-2006
Co-Founder & Co-Director, *eLab* Research Laboratory, 1994-2006.
Director, Electronic Commerce Concentration 1999-2006.
Marketing Area Head, 2002-2003, 2005-2006
Associate Professor of Marketing, 1993-2000.
Founder & Director, Electronic Commerce Emphasis at Owen, 1995-1999. (Emphasis converted to formal concentration in 1999).

University of Texas (Dallas)

Associate Professor, 1991-1993.

Vita**Donna L. Hoffman****Page 2****July 2024***Columbia University*

Associate Professor, Graduate School of Business, 1987-1990.

Assistant Professor, 1984-1987.

Associate in Business, 1983-1984.

Visiting Scholar Appointments*University of Hong Kong (HKU), January 12-29, 2019*

Visiting Scholar, Faculty of Business and Economics, Department of Marketing

University of California, San Diego, Fall 2013, Spring 2018

Visiting Scholar, Rady School of Management

University of Southern California, Fall 2010

Visiting Scholar, Marshall School of Business

Stanford University

Visiting Scholar, Center for Electronic Business and Commerce (Summer 2000)

Visiting Scholar, Department of Marketing (Summer 1997)

UCLA

Visiting Associate Professor, Anderson Graduate School of Management (Summer 1989)

Professional Experience*Interval Research Corporation, Palo Alto, CA, 1995-1999*

Visiting Scholar (summer)

Research Triangle Institute, N.C., 1980-1981

Social Science Analyst

Special Appointments

President's Information Technology Advisory Committee (PITAC), Socio-Economic and Workforce Panel, 1998.

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Donna L. Hoffman

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Academic Honors and Awards

- 2021 Best Article Award, *Journal of Consumer Research*. Awarded for Hoffman and Novak (2018), "Consumer and Object Experience in the Internet of Things: An Assemblage Theory Approach," (Volume 44) April 2018.
- 2021 GWSB Dean's Awards for Excellence: Senior Faculty Research Award
- 2020 Finalist for Academy of Marketing Science Best *JAMS Article Award* Published in 2019
- 2019 Winner of the Lazaridis Prize for the Best Paper on the Practice of Marketing as it relates to Innovation, Technology, and Interactivity, awarded by the American Marketing Association (AMA) TechSIG
- 2019 *Journal of Consumer Research* Best Reviewer Award
- 2019 Society for Consumer Psychology Fellow
- 2012 University of Pennsylvania Future of Advertising Center/Wharton Customer Analytics Initiative "Innovative Approaches to Measuring Advertising Effectiveness" Winner for proposal "Crowdsourcing Ad Effectiveness: Can Emergent Segments Produce the Most Effective Online Ads? (\$7,500)
- 2012 MSI Ideas Challenge Winner for proposal "Idea Wars: Developing a Collaborative Research Agenda for the Gamification of Marketing" (\$10,000)
- 2012 Finalist, Paul. D. Converse Award for Outstanding Contributions to the Science of Marketing
- 2011 National Science Foundation Grant # IIS-1114828, "Motivations, Expectations and Goal Pursuit in Social Media," PI (\$413,756 for two years)
- 2011 Robert B. Clarke Outstanding Educator of the Year Award (Direct Marketing Educational Foundation)
- 2011 Marketing Science Institute "Challenges of Communications and Branding in a Digital Era" research proposal competition winner (\$8,750)
- 2011 Robert D. Buzzell MSI Best Paper Award Honorable Mention for "The 'Right' Consumers for the Best Concepts: Identifying and Using Emergent Consumers in Developing New Products" (Hoffman, Kopalle and Novak)
- 2009 Thomson Reuters' Essential Science Indicators cited Professors Donna Hoffman and Tom Novak's *Journal of Interactive Marketing* (2009) article as a "Fast Breaking Paper" (one of the most cited in the past two years) in the entire field of Economics and Business, November 2009.
- 2009 Google/WPP Marketing Research Award (First Round Inaugural Year), "Are Brand Attitudes Contagious?" \$55,000, with Tom Novak
- 2008 Marketing Science Institute Research Grant Award, The "Right" Consumers for the Best Concepts: A Methodology for Identifying Emergent Consumers for New Product Development, \$6,750, with Tom Novak and Praveen Kopalle.
- 2008 National Science Foundation, Global Environment for Network Innovations (GENI) End-User Opt-In Initiative
- 2007 Alfred P. Sloan Foundation Research Networking Workshop Grant Award (\$15,000)

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Donna L. Hoffman

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- 2007 National Retail Federation Ray M. Greenly Shop.org Scholarship (\$2500) to the UCR Sloan Center for Internet Retailing – awarded to Hector Rosales, UCR undergraduate
- 2005 Sheth Foundation/Journal of Marketing Award for long-term contributions to marketing for the article “Marketing in Hypermedia Computer-Mediated Environments: Conceptual Foundations, published in the *Journal of Marketing* (1996).
- 2005 Stellner Distinguished Scholar for 2005-2006, University of Illinois at Urbana-Champaign.
- 2004 Member of marketing department ranked #2 in research impact per faculty member (based on median citation rates) among the top 46 business schools in the United States.
- 2003 ISI Essential Science Indicators cited Professors Donna Hoffman and Tom Novak’s *Marketing Science* (2000) article as “Emerging Research Front” in the entire field of Economics and Business, December 2003.
- 2003 ISI Essential Science Indicators cited Professors Donna Hoffman and Tom Novak for the highest percentage increase in total citations in the entire field of Economics and Business, July 2003.
- 2003 AACSB International Effective Practice: eLab
- 2002 University of North Carolina Distinguished Graduate Alumni
http://gradschool.unc.edu/centennial/distinguished_graduate.html
- 1999 With Professor Tom Novak, voted as one of the top two Internet scientists by over 600 U.S. and European scientists and marketing managers in a survey conducted by the ProfNet Institute for Internet Marketing in Dortmund, Germany.
- 1999 EDSF Excellence in Education Award for Innovation in Higher Education (sponsored by Xerox).
- 1997 EFF (Electronic Frontier Foundation) Honorary Fellow.
- 1996 TLA/SIRS Freedom of Information Award.
- 1991 William O'Dell Award for "Correspondence Analysis: The Graphical Representation of Categorical Data in Marketing Research," *Journal of Marketing Research*, 1986.
- 1991 American Marketing Association Second Annual Advanced Research Techniques Forum Best Paper Award and Best Presentation Award for "Asymmetric Residual Maps for Market Structure Analysis."

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Donna L. Hoffman

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Research Interests

- Consumer experience of AI using assemblage theory and object-oriented ontology perspectives
- Impact of anthropomorphism on AI perceptions and downstream consequences
- Computational approaches (machine learning and NLP methods) for understanding consumer-smart object experience from IoT interaction data
- Self-extension and self-expansion theories of consumers' relationships with AI
- Online consumer behavior and digital marketing strategy

Research Impact

39,851 citations in [Google Scholar](#) (as of July 2024):

- 1 article with 10,000+ citations
- 1 article with 5,000+ citations
- 9 articles with 1,000+ citations
- 16 articles with 500+ citations
- 40 articles with 100+ citations
- h-index=47; i10-index=83

The 1996 *Journal of Marketing* article on marketing in computer-mediated environments is the most widely cited *Journal of Marketing* article from 1995-2007 and the #1 most cited paper in the entire marketing discipline between 1990-2002 (Stremersch, Verniers and Verhoef 2007).

The 2000 *Marketing Science* article on online customer experience is one of the “all time most highly cited articles” and the top article in terms of “all time citations per year” in *Marketing Science* (Shugan 2008), as well as the 14th most cited paper in the entire marketing discipline between 1990-2002 (Stremersch, Verniers and Verhoef 2007).

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Donna L. Hoffman

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Journal Publications

1. Hoffman, D.L. and T.P. Novak, (in press) "The Evolving Consumer IoT: A Novel Framework for Marketing Strategy Based on Assemblage Theory," *Journal of Product Innovation Management*, Thought Leader Special Issue.
2. Valenzuela, Ana, Stefano, Puntoni, Donna L. Hoffman, Noah Costelo, Julian De Freitas, Berkeley Dietvorst, Christian Hildebrand, Young Eun Huh, Robert Meyer, Miriam E. Sweeney, Sanaz Talaifar, Geoff Tomaino, and Klaus Wertenbroch (2024), "How Artificial Intelligence Constrains the Human Experience," *Journal of the Association for Consumer Research*, Special Issue on Automation in Marketing and Consumption, July, 9(3), 241-256.
3. Novak, T.P. and Hoffman, D.L. (2024), "Exploration and Exploitation in Consumer Automation: Visualizing IoT Interactions with Topological Data Analysis," *Journal of the Association for Consumer Research*, Special Issue on Automation in Marketing and Consumption, July, 9(3), 282-294.
4. Novak, T.P. and D.L. Hoffman (2023), "Automation Assemblages in the Internet of Things: Discovering Qualitative Practices at the Boundaries of Quantitative Change," *Journal of Consumer Research*, 49(5), 811-837. Published Online April 7, 2022.
5. Hildebrand, C., F. Efthymiou, B. Francesc, W.H. Hampton, D.L. Hoffman and T.P. Novak (2020), "Voice Analytics in Business Research: Conceptual Foundations, Acoustic Feature Extraction, and Applications," *Journal of Business Research*, 121 (December), 364-374.
6. MacInnis, Deborah J., Vicki G. Mortwitz, Simona Botti, Donna L. Hoffman, Robert V. Kozinets, Donald R. Lehmann, John G. Lynch, Jr., Cornelia Pechmann (2020), "Creating Boundary-Breaking Marketing-Relevant Consumer Research," *Journal of Marketing*, 84(2), 1-23.
7. Novak, T.P. and D.L. Hoffman, (2019), "Relationship Journeys in the Internet of Things: A New Framework for Understanding Interactions Between Consumers and Smart Objects," *Journal of the Academy of Marketing Science*, special issue on Consumer Journeys: Developing Consumer-Based Strategy, 47(2), 216-237.
Finalist for Academy of Marketing Science Best JAMS Article Award published in 2019
8. Hoffman, D.L. and T.P. Novak (2018), "The Path of Emergence Experience in the Consumer IoT: From Early Adoption to Radical Changes in Consumers' Lives," *Marketing Intelligence Review: IoT Experiences*, 10(2), 10-17.

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9. Hoffman, D.L. and T.P. Novak (2018), "Consumer and Object Experience in the Internet of Things: An Assemblage Theory Approach," *Journal of Consumer Research*, 44(6), April, 1178-1204. **Lead article.**
Winner of the 2021 *Journal of Consumer Research* Best Article Award.

Winner of the 2019 Lazaridis Prize for the Best Paper on the Practice of Marketing as it relates to Innovation, Technology and Interactivity, awarded by the American Marketing Association (AMA) TechSIG.
10. Verhoef, P., Stephen, A., Kannan, P.K., Luo, X., Abhishek, V., Andrews, M., Bart, Y., Datta, H., Fong, N., Hoffman, D., Hu, M., Novak, T., Rand, W., and Zhang, Y. (2017), "Consumer Connectivity in a Complex, Technology-Enabled, and Mobile-Oriented World with Smart Products," *Journal of Interactive Marketing*, 40 (November), 1-8.
11. Hoffman, D.L., T.P. Novak and H. Kang, (2017), "Let's Get Closer: How Regulatory Fit Drives Feelings of Connectedness in Social Media," *Journal of the Association for Consumer Research*, issue on "The Consumer in a Connected World," 2(2).
12. White, T., T. P, Novak and D. L. Hoffman (2014), "No Strings Attached: When Giving It Away Versus Making Them Pay Leads to Negative Net Benefit Perceptions in Consumer-Retailer Exchanges," *Journal of Interactive Marketing*, 28 (August), 184-195.
13. Yadav, Manjit S, Kristine De Valck, Thorsten Hennig-Thurau, D.L. Hoffman and Martin Spann (2013), "Social Commerce: A Contingency Framework for Assessing Marketing Potential," *Journal of Interactive Marketing*, 27 (November), 311-323.
14. Hoffman, D.L. and T.P. Novak (2012), "Toward a Deeper Understanding of Social Media," *Journal of Interactive Marketing*. (Editorial, Co-Editor, Special Issue on "Social Media"), 26(May), 69-70.
15. Hoffman, D. L. (2011), "Web 2.0 for B2Bs: Strategic Brief," *European Business Review*, November-December, 72-73.
16. Hoffman, D.L. and Novak. T.P (2011), "Marketing Communication in a Digital Era," *Marketing Management*, Fall, 20(3), 37-42, American Marketing Association. **Cover article.** (Invited article to commemorate the 50th Anniversary of the Marketing Science Institute.)
17. Hoffman, D.L. and M. Fodor (2010), "Can You Measure the ROI of Your Social Media Marketing?" *Sloan Management Review*, 52(1), Fall, 41-49.

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18. Hoffman, D., Kopalle, P., Novak, T. (2010) The “Right” Consumers for Better Concepts: Identifying Consumers High in Emergent Nature to Develop New Product Concepts,” *Journal of Marketing Research*, 47 (October).
Honorable Mention: 2011 Robert D. Buzzell MSI Best Paper Award for significant contribution to marketing practice and thought.
19. Hoffman, D.L. (2009), “Managing Beyond Web 2.0,” *McKinsey Quarterly*, July.
20. Hoffman, D.L., Novak, T.P. (2009), “Flow Online: Lessons Learned and Future Prospects,” *Journal of Interactive Marketing*, 23(1), February, Anniversary Issue, 23-34.
Most cited article during the period 2007-2011.
21. Novak, T.P., Hoffman, D.L. (2009), “The Fit of Thinking Style and Situation: New Measures of Situation-Specific Experiential and Rational Cognition,” *Journal of Consumer Research*, 36(1), December, 56-72.
22. Neslin, S., Novak, T., Baker, K., Hoffman, D. (2009), “An Optimal Contact Model for Maximizing Online Panel Response Rates,” *Management Science*, 55(5), May, 727-737.
23. Hoffman, Donna L., Thomas P. Novak, and Alladi Venkatesh (2004), “Has the Internet Become Indispensable?” *Communications of the ACM*, 47(7), July, 37-42.
24. Hoffman, Donna and Thomas P. Novak (2005), “A Conceptual Framework for Considering Web-Based Business Models and Potential Revenue Streams” *International Journal of Marketing Education*, 1(1).
25. Chatterjee, P., D.L. Hoffman and T.P. Novak (2003), “Modeling the Clickstream: Implications for Web-Based Advertising Efforts,” *Marketing Science*, 22(4), 520-541.
26. Hoffman, Donna L., Thomas P. Novak and Ann Schlosser (2003), “Consumer Attitudes Toward Software Filters and Online Content Ratings: A Policy Analysis,” *Journal of Public Policy and Marketing*, 22(1), 41-57.
27. Novak, Thomas P., Donna L. Hoffman, and Adam Duhachek (2003) “The Influence of Goal-Directed and Experiential Activities on Online Flow Activities,” *Journal of Consumer Psychology*, 13(1&2), 3-16. **Lead article.**
28. Straub, Detmar, Donna L. Hoffman, Bruce Weber and Charles Steinfield (2002), “Toward New Metrics for Net-Enhanced Organizations,” *Information Systems Research*, 13(3), September. (Editorial)

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Donna L. Hoffman

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29. Straub, Detmar, Donna L. Hoffman, Bruce Weber, and Charles Steinfield (2002), "Measuring e-Commerce in Net-Enabled Organizations," *Information Systems Research*, 13 (2), June. (Editorial)
30. Hoffman, D. L. (2000), "The Revolution Will Not Be Televised," Editorial, *Marketing Science*, Winter, 19(1), 1-3. (Editorial)
31. Hoffman, D.L. and T.P. Novak (2000), "How to Acquire Customers on the Web," May/June, *Harvard Business Review*, 179-188.
32. Hoffman, D.L., T.P. Novak and A. Schlosser (2000), "The Evolution of the Digital Divide: How Gaps in Internet Access May Impact Electronic Commerce," *Journal of Computer-Mediated Communication*, 5(3), <http://www.ascusc.org/jcmc/vol5/issue3/hoffman.html>.
Reprinted in: Hoffman, D.L., T.P. Novak and A. Schlosser (2003), "The Evolution of the Digital Divide: How Gaps in Internet Access May Impact Electronic Commerce," *New Directions in Research on E-Commerce*, Charles Steinfield, Editor, 245-292, Purdue University Press.
33. Novak, T.P., D.L. Hoffman, and Y.F. Yung (2000), "Measuring the Customer Experience in Online Environments: A Structural Modeling Approach," *Marketing Science*, Winter, 19(1), 22-44.
34. Hoffman, D.L., T.P. Novak, and M.A. Peralta (1999), "Building Consumer Trust Online," April, *Communications of the ACM*, Volume 42, Number 4, April, 80-85.
35. Hoffman, D.L., T.P. Novak, and M.A. Peralta (1999), "Information Privacy in the Marketspace: Implications for the Commercial Uses of Anonymity on the Web," *The Information Society*, Volume 15, Number 2, April-June, 129-140.
36. Hoffman, D.L. and T.P. Novak (1998), "Division on the Internet?" *Science*, 281 (August 14), 919d (response to letters regarding "Bridging the Racial Divide on the Internet").
37. Hoffman, D.L. and T.P. Novak (1998), "Bridging the Racial Divide on the Internet," *Science*, Volume 280, 390-391, April 17.
38. Novak, T.P. and D.L. Hoffman (1997), "New Metrics for New Media: Toward the Development of Web Measurement Standards," *World Wide Web Journal*, Winter, 2(1), 213-246. Russian translation reprinted as a chapter in *Research on the Internet, Humanitarian and Social Aspects*, A. Voiskounsky, ed.

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Donna L. Hoffman

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July 2024

39. Hoffman, D.L. and T.P. Novak (1997), "A New Marketing Paradigm for Electronic Commerce," *The Information Society*, Special Issue on Electronic Commerce, 13 (Jan-Mar.), 43-54. German translation reprinted in *THEXIS*, special issue on "Online Marketing," (1997), Jan., 39-43.
40. Hoffman, D.L., W.D. Kalsbeek and T.P. Novak (1996), "Internet and Web Use in the United States: Baselines for Commercial Development," Special Section on "Internet in the Home," *Communications of the ACM*, 39 (December), 36-46.
41. Hoffman, D.L. and T.P. Novak (1996), "Perspectives: The Future of Interactive Marketing," *Harvard Business Review*, 74 (November-December), 161.
42. Hoffman, D.L. and T.P. Novak (1996), "Marketing in Hypermedia Computer-Mediated Environments: Conceptual Foundations," *Journal of Marketing*, 60 (July), 50-68. Reprinted in: *Marketing Communication Classics*, (2000), Maureen FitzGerald and David Arnott, eds. London: Business Press, pp. 261-290.

Winner of the 2005 AMA Sheth Foundation/Journal of Marketing Award for long-term contributions to the marketing discipline.

43. Hoffman, D.L., T.P. Novak, and P. Chatterjee. (1995), "Commercial Scenarios for the Web: Opportunities and Challenges," *Journal of Computer-Mediated Communication*, Special Issue on Electronic Commerce, 1(3). **Lead article.** Reprinted in: *Electronic Commerce: Profiting from Business On-line*, (1996) Layna Fischer, ed., Lighthouse Point FL: Future Strategies Inc., Book Division, pp. 107-136. Reprinted in: *Readings in Electronic Commerce* (1996), Ravi Kalakota and Andrew Whinston, eds., Reading, MA: Addison-Wesley, pp. 29-53. Reprinted in: *Web Marketing Insider* (1996). [www.ideacentral.com/wmi/hoffman1.html]
44. Hoffman, D.L. & Holbrook, M.J. (1993) The Intellectual Structure of Consumer Research: A Bibliometric Study of Author Co-Citations in the First 15 Years of *JCR*. *Journal of Consumer Research*, 19(4), March, 505-517.
45. Hoffman, D.L. & de Leeuw, J. (1992) Interpreting Multiple Correspondence Analysis as an MDS Method. *Marketing Letters*, 3(3).
46. Kopalle, P. & Hoffman, D.L. (1992) Generalizing the Sensitivity Conditions in an Overall Index of Product Quality. *Journal of Consumer Research*, 18 (4), March, 530-535.
47. Hoffman, D.L. & Batra, R. (1991) Viewer Response to Programs: Dimensionality and Concurrent Behavior. *Journal of Advertising Research*, (August-September), 31(4), 46-56.

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Donna L. Hoffman

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July 2024

48. Novak, T.P & Hoffman, D.L. (1990). Residual scaling: An alternative to correspondence analysis for the graphical representation of residuals from log-linear models. *Multivariate Behavioral Research*, 25(July), 351-370.
49. Hoffman, D.L. & Novak, T.P. (1988). A short SAS macro for performing the basic equations of correspondence analysis. *TRAC*, 7(3), *Computer Corner*, 93-94.
50. DeSarbo, W. & Hoffman, D.L. (1987). Constructing MDS Joint Spaces from Binary Choice Data: A New Multidimensional Unfolding Model for Marketing Research. *Journal of Marketing Research*, 24 (February), 40-54.
51. Hoffman, D.L. & Franke, G. (1986). Correspondence Analysis: The Graphical Representation of Categorical Data in Marketing Research. *Journal of Marketing Research*, 23 (August), 213-227. Reprinted in *Multidimensional Scaling: Concepts and Applications*, P. Green, F. Carmone and S. Smith (Eds.), Allyn and Bacon, Inc. (1993)

Winner of the 1991 William O'Dell Award for long-run contributions to marketing.

52. DeSarbo, W. & Hoffman, D.L. (1986). Simple and Weighted Multidimensional Unfolding Threshold Models for the Spatial Representation of Binary Choice Data. *Applied Psychological Measurement*, 10(3), 247-264.
53. Hoffman, D.L. (1985). An argument for qualitative ratings. *Television Quarterly*, 21(4), 39-44.

Papers Under Review and in Preparation for Submission

54. Hoffman, D.L. and T.P. Novak, "Mitigating Anthropomorphic Distortion of AI through Object-Oriented Metaphors," in preparation for submission, *Journal of the Academy of Marketing Science*
55. Hildebrand, C., D.L. Hoffman, and T.P. Novak, "Your Request is My Command! How Initiation Modalities Shape Conversational AI Experiences," under revision after 1st round review at the *Journal of Consumer Research*.
56. Hoffman, D.L. and T.P. Novak, "Human-Centric versus Object-Oriented Perspectives on Perceptions of AI," target: *Journal of Marketing*.

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57. Novak, T.P. and D.L. Hoffman, *"Enabling and Constraining Experiences: Theory, Measurement, and Application,"* two studies completed, target: *Journal of Consumer Research*.

Working Papers and Monographs

1. Hoffman, D.L. and T.P. Novak (2016), "How to Market the Smart Home: Focus on Emergent Experience, Not Use Cases," January 15. Working paper available at: <https://ssrn.com/abstract=2840976>.
2. Hoffman, D.L. and T.P. Novak, (2015), "Emergent Experience and the Connected Consumer in the Smart Home Assemblage and the Internet of Things," August 20. Monograph. 152 pages. Available at SSRN: <http://ssrn.com/abstract=2648786>
3. Hoffman, D.L. and T.P. Novak (2014), "Online Experience in Social Media: Two Paths to Feeling Close and Connected," working paper available at: <https://ssrn.com/abstract=1990005>.
4. Hoffman, D.L. and T.P. Novak (2012), "Why Do People Use Social Media? Empirical Findings and a New Theoretical Framework for Social Media Goal Pursuit," working paper available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1989586

Edited Books

Hoffman, D.L. And T.P. Novak, Eds. (2005), *Beyond the Basics: Research-Based Rules for Internet Retailing Advantage*. eLab Press, Vanderbilt University.

Refereed Chapters in Books

1. Hoffman, D.L., T.P. Novak, and Y. Li (2015), "Online Consumer Behavior," In Mansell, R. and Ang, P-H (Eds), *The International Encyclopedia of Digital Communication and Society*, Wiley-Blackwell-ICA Encyclopedias of Communication. Malden and Oxford: Wiley.
2. Hoffman, D. L., T.P. Novak and R. Stein (2013), "The Digital Consumer," chapter in *The Routledge Companion to Digital Consumption*, Eds., Russell Belk and Rosa Llamas, Routledge, Taylor And Francis Group.
3. Hoffman, D.L. and T.P. Novak (2012), "Social Media Strategy," in *Handbook on Marketing Strategy*, eds., Venkatesh Shankar and Gregory S. Carpenter, Edward Elgar Publishing, Ltd., 198-216.

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4. Hoffman, D.L. (2012), "Internet Indispensability, Online Social Capital, and Consumer Well-Being," Chapter to appear in *Transformative Consumer Research for Personal and Collective Well Being* in the section "Technological Fronts," eds., David Glen Mick, Simone Pettigrew, Cornelia Pechmann, and Julie L. Ozanne, New York: Routledge.
5. Hoffman, D.L. and T.P. Novak (2003), 'A Detailed Analysis of the Conceptual, Logical and Methodological Flaws in the Article: "Marketing Pornography on the Information Superhighway," in *Cyberspace Crime*, D.S. Wall, ed., Ashgate Publishing Limited.
6. Hoffman, D.L. and T.P. Novak (2000), "The Growing Digital Divide: Implications for an Open Research Agenda," in "Understanding the Digital Economy: Data, Tools and Research," B. Kahin and E. Brynjolfsson, eds. Cambridge: MIT Press. (editorial review)
7. Novak, T.P. and D.L. Hoffman (2000) "Advertising and Pricing Models for the Web," in *Internet Publishing and Beyond: The Economics of Digital Information and Intellectual Property*, Brian Kahin and Hal Varian, eds. Cambridge: MIT Press. (editorial review)
8. Novak, T.P., D.L. Hoffman, and A. Venkatesh (1998), "Diversity On The Internet: The Relationship Of Race To Access And Usage," In *Investing in Diversity: Advancing Opportunities for Minorities and the Media*, Amy Garmer, Ed. Washington, D.C., The Aspen Institute.
9. Hoffman, D.L. & Steenkamp, J.B. (1994). "Marketing and Quality," chapter 31 (Noel Capon, ed. Marketing Section). In *AMA Management Handbook, Third Edition*, Rod Willis (Ed.) American Marketing Association.
10. Steenkamp, J.B.E.M. & Hoffman, D. (1994). "Price and Advertising as Market Signals for Service Quality." In *Service Quality: New Directions in Theory and Practice*, Roland T. Rust and Richard L. Oliver (Eds.), Sage Publications.
11. Hoffman, D.L., de Leeuw, J., & Arjunji, R.V. (1994). "Multiple Correspondence Analysis," In *Advanced Methods of Marketing Research*, Richard P. Bagozzi (Ed.), Blackwell.
12. Hoffman, D.L. & Perreault, W.D., Jr. (1987). The Multidimensional Analysis of Consumer Preference and Perception Data. In *Multidimensional Scaling: History, Theory, and Applications*, F.W. Young and R. M. Hamer (Eds.), Lawrence Erlbaum Associates, Inc.
13. Young, F.W., Null, C., Sarle, W., & Hoffman, D.L. (1982). Interactively Ordering the Similarities Among a Large Set of Stimuli. In *Proximity and Preference: Problems in the*

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Multidimensional Analysis of Large Data Sets, R.D. Golledge and S.N. Rayner (Eds.), University of Minnesota Press.

Letters, Comments and Reviews

Hoffman, D.L. and T.P. Novak (2013), "How the Digital Future Killed Advertising," Wharton Future of Advertising Project.

Hoffman, D.L. (2012), "CB As I See It," feature in *Consumer Behavior: Buying, Having, and Being* by Michael Solomon. Tenth Edition, Prentice Hall.

Hoffman, D.L. and T.P. Novak (2010), "Retweet: A Digital Meditation on the Power of Twitter." Video Essay.

Hoffman, D.L., Novak, T.P. and M. Peralta (1999), "Con Game?" Information Impact Magazine, April.

Hoffman, D.L. & Novak, T.P. (1998), "TrustBuilders vs. Trustbusters," *The Industry Standard*, May 11.

Hoffman, D.L. & Novak, T.P. (1997), "Pushing Passive Eyeballs," *Wired*, 5.3, March.

Hoffman, D.L. (1996), "Cyberspace to Congress: The Net is Mainstream and It Votes!" *MicroTimes*, 148, March 4.

Hoffman, D.L. & Novak, T.P. (1995), "Panning for Business Models in a Digital Gold Rush," *HotWired*, Intelligent Agent Section, April 22.

Hoffman, D.L. & Novak, T.P. (1994), "The Challenges of Electronic Commerce," *HotWired* (Intelligent Agent Section), December 29.

Hoffman, D.L. & Novak, T.P. (1994), "Wanted: Net.census," *Wired*, 2.11, November.

Hoffman, D.L. & Novak, T.P. (1994), "How Big is the Internet," *HotWired*, Aug. 18.

Hoffman, D.L. & Novak, T.P. (1994), "Commercializing the Information Super Highway: Are We In for a Smooth Ride?" *The Owen Manager*, 15(2), 2-7.

Hoffman, D.L. (1991). Review of Four Correspondence Analysis Programs for the IBM PC. *American Statistician*, 45 (4), November, 305-311.

Vita**Donna L. Hoffman****Page 15****July 2024**

Hoffman, D.L. (1987). Review of *Multivariate Descriptive Statistical Analysis: Correspondence Analysis and Related Techniques for Large Data Matrices* (1984) by Lebart, L., Morineau, A. & Warwick, K. *Psychometrika*, 52(2), 308-309.

Proceeding Publications (Refereed)

Hoffman, D.L. and T.P. Novak (2010), "Retweet: A Digital Meditation On The Power Of Twitter", in *Advances in Consumer Research Volume 38*, eds. Darren Dahl and Gita V. Johar and Stijn van Osselaer, Duluth, MN : Association for Consumer Research, Pages: .

Hoffman, D.L. (2010), "Navigating the Networked Rivers Of The Social Web: Emerging Themes For Consumer Behavior Research On Web 2.X", in *Advances in Consumer Research Volume 37*, eds. Margaret C. Campbell and Jeff Inman and Rik Pieters, Duluth, MN: Association for Consumer Research, Pages

Donna Hoffman, Praveen Kopalle, Thomas Novak (2009), "The "Right" Consumers For The Best Concepts: A Methodology For Identifying Emergent Consumers For New Product Development", in *Advances in Consumer Research Volume 36*, eds. Ann L. McGill and Sharon Shavitt, Duluth, MN : Association for Consumer Research, Pages: 571-572.

Thomas P. Novak, Donna L. Hoffman (2007), "New Measures Of Task-Specific Experiential And Rational Cognition", in *Advances in Consumer Research Volume 34*, eds. Gavan Fitzsimons and Vicki Morwitz, Duluth, MN : Association for Consumer Research, Pages: 657-660.

Hoffman, D.L. & Young, F.W. (1982). Quantitative Analysis of Qualitative Data: Applications in Food Preference Research. Food Research and Data Analysis Symposium Proceedings, Oslo, Norway, September.

Hoffman, D.L. & van der Heijden, P.G.M. (1994). Asymmetric Residual Maps for Market Structure Analysis. Proceedings of the Second Annual AMA Advanced Research Techniques Forum, Beaver Creek, Colorado, June 1991.

Unpublished Working Papers

Hoffman, D.L. (1984). Program impact: The key measure of audience response. Columbia Business School Center for Telecommunications and Information Studies Research Working Paper.

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Hoffman, D.L. & Franke, G. (1985). Correspondence analysis: Graphical representation of categorical data in marketing research (contains technical appendix). Columbia Business School Research Working Paper.

Novak, T.P. & Hoffman, D.L. (1987). Residual scaling using the singular value decomposition: Graphical representation of log-linear models. Columbia Business School Research Working Paper, No. 87-1.

Hanssens, D.M. & Hoffman, D.L. (1989). Diagnostic Maps for Product Line Monitoring. The Avis Rent a Car System, Inc. Working Paper Series in Marketing Research Working Paper No. 89-AV-10.

Hoffman, D.L. & de Leeuw, J. (1990). Geometrical Aspects of Multiple Correspondence Analysis: Implications for the Coordinate Scaling Debate. UCLA Statistics Series, No. 49.

Hoffman, D.L. & van der Heijden, P.G.M. (1990) Asymmetric Residual Maps for Market Structure Analysis. Columbia Business School Research Working Paper.

Kopalle, P. & Hoffman, D.L. (1990) Generalizing the Sensitivity Conditions in an Overall Index of Product Quality. Columbia Business School Research Working Paper.

Hoffman, D.L. & de Leeuw, J. (1993) "A New Two-Stage Procedure for Analyzing a Brand Switching Matrix: One Approach to the Analysis of a Contingency Table," in *Analyzing Brand Switching Matrices*, Richard Colombo (Ed.). MSI Working Paper Series.

Hoffman, D.L. and T.P. Novak (1995), "A Detailed Critique of the *TIME* Article: "On a Screen Near You: Cyberporn (DeWitt, 7/3/95)," July 1.

Hoffman, D.L. and T.P. Novak (1995), 'A Detailed Analysis of the Conceptual, Logical and Methodological Flaws in the Article: "Marketing Pornography on the Information Superhighway," July 2.
Reprinted in International Library of Criminology, Criminal Justice and Penology, General Editors, David Nelken and Gerald Mars. Volume on *Cyberspace Crime*, edited by D.S. Wall (in press). Ashgate Publishing Limited.

Hoffman, D.L. and T.P. Novak (1995), "The CommerceNet/Nielsen Internet Demographics Survey: Is It Representative?" December 12.

Hoffman, D.L., W.D Kalsbeek, and T.P. Novak (1996), "Internet Use in the United States: 1995 Baseline Estimates and Preliminary Market Segments, April 12.

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Research Conference Presentations

1. Hoffman, D.L. and Novak, T.P (2023), "The Evolving Consumer IoT: A Novel Framework for Marketing Strategy Based on Assemblage Theory," paper presented via Zoom at the Journal of Product Innovation Management Thought Leader Workshop, Babson College, October 6.
2. Hildebrand, C.A., D.L. Hoffman, and T.P Novak (2021), "Detrimental Dehumanization in the IoT: Phonetic & Experiential Consequences of Restricted Human-Machine Interaction," Keynote presentation at the Conference on Artificial Intelligence, Machine Learning, and Business Analytics, Temple University, Fox School of Business (online conference), December 2-3.
3. Hildebrand, C.A, D.L. Hoffman, and T.P. Novak (2021), "Dehumanizing Voice Technology: Phonetic & Experiential Consequences of Restricted Human-Machine Interaction," Paper Presented at the AAAI Artificial Intelligence for Human-Robot Interaction Virtual Symposium (online conference), November 4-6. <https://arxiv.org/abs/2111.01934>
4. Hoffman, D.L. and T.P. Novak (2020), "Object-Oriented Metaphorism as a Mechanism for Understanding AI," paper presented in the Symposium, "Resisting Artificial Intelligence: When Do Decision Makers Avoid or Use Algorithmic Input," Academy of Management Conference, August 10 (online conference).
5. Hoffman, D.L. and T.P. Novak (2020), "Object-Oriented Metaphorism as a Mechanism for Understanding AI," paper presented in the Special Session, "Consumers and Their Smart Devices: Perspectives on Anthropomorphism," Association for Consumer Research Conference, October 1-4 (online conference).
6. Novak, T.P. and D.L. Hoffman (2020), "Quantifying Assemblage Theory to Reify the Possibility Space of Personal Automation Practices," paper presented at the First Virtual ISMS Marketing Science Conference, Session TB10 – Internet of Things, June 11.
7. Hoffman, D.L. and T.P. Novak (2020), "Object-Oriented Metaphorism as a Mechanism for Understanding AI," paper presented at the First Virtual ISMS Marketing Science Conference, Session SC06 – Artificial Intelligence 1, June 13.
8. Hoffman, D.L. and T.P. Novak (2020), "Object Oriented Metaphorism as a Mechanism for Understanding AI," paper presented at the Winter AMA Academic Conference, San Diego, CA, February 13-16.

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9. Novak, T.P. and D.L. Hoffman (2020), "Reifying the Possibility Space of IoT Automation Practices: A Machine Learning Approach," Keynote Address presented at the Affective Content Analysis (AffCon) Workshop, AAAI-20, New York City, February 7.
10. Hoffman, D.L. and T.P. Novak (2019), "Object-Oriented Metaphorism as a Mechanism for Understanding AI," Paper presented at the Psychology of Technology Institute "New Directions in Research on the Psychology of Technology" Conference, UVA Darden Sands Family Grounds, November 8-9.
11. Hildebrand, Christian, D.L. Hoffman, and T.P. Novak (2019), "Dehumanization in the IoT: Experiential Consequences of Human Interaction with Digital Voice Assistants," paper presented in the Special Session, "The Modern Consumer: How New Technologies are Changing Consumer Behavior and Interactions," ACR Fiftieth Anniversary Conference, Atlanta, Georgia, October 17-20.
12. Hoffman, D.L. and T.P. Novak (2019), "Object-Oriented Anthropomorphism as a Mechanism for Understanding AI," paper presented in the Special Session, "Rethinking Anthropomorphism: The Antecedents, Unexpected Consequences, and Potential Remedy for Perceiving Machines as Humanlike," ACR Fiftieth Anniversary Conference, Atlanta, Georgia, October 17-20.
13. Novak, Thomas and D.L. Hoffman (2019), "Reifying the Possibility Space of IoT Automation Practices: A Machine Learning Approach," paper presented in the Special Session, "Extracting Behavioral Insights from Big Data: Novel AI and NLP Approaches," ACR Fiftieth Anniversary Conference, Atlanta, Georgia, October 17-20.
14. Hoffman, D.L. and T.P. Novak (2019), "Object-Oriented Metaphorism as a Mechanism for Understanding AI," paper presented in the Symposium, "Rethinking Anthropomorphism: The Antecedents, Unexpected Consequences, and Potential Remedy for Perceiving Machines as Humanlike," the American Psychological Association Technology, Mind, and Society Conference, Washington, DC, October 3-5.
15. Novak, T.P. and D.L. Hoffman (2019), "Reifying the Possibility Space of IoT Automation Practices: A Machine Learning Approach," paper presented at the 11th Triennial Invitational Choice Symposium, Cambridge, Maryland, May 30 – June 1.
16. Hoffman, D.L. and Novak, T.P. (2019), "Impact of AI on Consumer Experience," paper presented at the 11th Triennial Invitational Choice Symposium, Cambridge, Maryland, May 30 – June 1.

Vita**Donna L. Hoffman****Page 19****July 2024**

17. Hoffman, D.L. and Novak, T.P. (2019), "AI: Beyond Friend or Foe," paper presented at the Theory + Practice in Marketing (TPM) Conference, Columbia, May 16-18.
18. Hoffman, D.L. (2019), "Marketing Strategy Panel," Lehmann Fest Research Conference in Honor of Don Lehmann's 50th Anniversary Columbia University, May 10-11.
19. Novak, T.P. and D.L. Hoffman (2019), "Reifying the Possibility Space of IoT Automation Practices: A Machine Learning Approach," paper presented at the GWSB Inaugural Conference on the Intelligence of Things, April 5.
20. Hoffman, D.L. (2019), "Managing Institutional and Cultural Complexity in the Contemporary Digital Marketplace," Discussant, Special Session, Winter AMA, Austin, TX, February 22-24.
21. Hoffman, D.L. (2019), "Opportunities and Challenges in Using Computational Methods to Study the Impact of AI on Consumer Behavior," paper presented in Special Session on Machine Learning for Consumer Behavior Research, Winter AMA, Austin, TX, February 22-24.
22. Hoffman, D.L. (2019), "The Future of Omni-Social Marketing," Invited Panel Session, Winter AMA, Austin, TX, February 22-24.
23. Hoffman, D.L. (2018), "Studying the Effects of New Tech: Methodological Challenges and Solutions," presentation in the Roundtable Special Session, "Trust in the Age of AI," Association for Consumer Research, Dallas, TX, October 11-14.
24. Novak, T.P. and D.L. Hoffman (2018), "A Computational Social Science Framework for Visualizing the Possibility Space of Consumer-Object Assemblages from IoT Interaction Data," paper presented in the Special Session, "The Technological Consumer in an Interconnected World," Association for Consumer Research, Dallas, TX, October 11-14.
25. Hoffman, D.L. and T.P. Novak (2018), "Object-Oriented Anthropomorphism as a Mechanism for Understanding AI," paper presented in the Special Session, Association for Consumer Research, Dallas, TX, October 11-14.
26. Novak, T.P. and D.L. Hoffman (2018), "A Computational Social Science Framework for Visualizing Emergent Consumer Experience from IoT Interaction Data," paper presented at SCECR 2018, Rotterdam, June 18-19.

Vita**Donna L. Hoffman****Page 20****July 2024**

27. Novak, T.P. and D.L. Hoffman (2018), "A Computational Social Science Framework for Visualizing Emergent Consumer Experience from IoT Interaction Data," paper presented at Theory + Practice in Marketing, UCLA, May 16-18.
28. Hoffman, D.L. and T.P. Novak (2018), "Mining the Secret Life of Objects: An Object-Oriented Approach to Constructing Representations of Object Experience," accepted for presentation at the 2018 Society for Consumer Psychology Conference, Dallas, TX, February 15-17.
29. Hoffman, D.L. and T.P. Novak (2018), "The Changing Relationship Between Consumers and Objects in the IoT," presentation in the invited special session "Doing Observational Research," presentation at the 2018 Winter American Marketing Association Conference, New Orleans, LA, February 23-25.
30. Hoffman, D.L. and T. P. Novak (2017), "Understanding Object Experience," paper presented at the 2017 Association for Consumer Research Conference, San Diego, CA, October 26-29.
31. Novak, T.P. and D.L. Hoffman (2017), "Send 'Her' My Love: A Circumplex Model for Understanding Relationship Journeys in Consumer-Smart Object Assemblages," paper presented at the 2017 Association for Consumer Research Conference Special Session: Human-Object Relationships: How Consumers Interact with Analog and Digital Things in Analog and Digital Worlds, October 26-29.
32. Hoffman, D.L. and T.P. Novak (2017), "Consumer-Object Relationship Styles in the Internet of Things, paper presented at the Consumer Culture Theory Conference, Anaheim, CA, July 10-12.
33. Hoffman, D.L. (2017), "What Do You Mean She Doesn't Work There Anymore? Challenges and Rewards of Research and Data Collaborations with Industry Sponsors," Paper presented at the AMA Doctoral Consortium, Research Frontiers 2: Managing Collaborations, University of Iowa, June 14-17.
34. Novak, T.P. and D.L. Hoffman (2017), "Visualizing Emergent Identity of Assemblages in the Internet of Things: A Topological Data Analysis Approach, paper presented at EMAC, Groningen, Netherlands, May 23-26.
35. Hoffman, D.L. and T.P. Novak (2017), "Consumer-Object Relationship Journeys in the Internet of Things," paper presented at the Thought Leaders in Consumer-Based Strategy Conference, Amsterdam, May 19-21.

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36. Hoffman, D.L. and T.P. Novak (2017), "How to Market the Consumer IoT: Focus on Experience," MSI Webinar, March 1.
37. Hoffman, D.L. (2017), "Consumer-Object Relationship Journeys," paper presented at the Invited Special Session, Winter AMA, Orlando, FL, February 17.
38. Hoffman, D.L. (2017), "The Impact of Marketer-Consumer Collaborations in the IoT," paper presented in Special Session, Winter AMA, Orlando, FL, February 18.
39. Hoffman, D.L. and T.P. Novak (2016), "When Dumb Objects Become Smart, Do Smart Consumers Become Dumb?," presented at the Invited Perspectives Session, ACR Annual Conference, Berlin, Germany, October 27-30.
40. Hoffman, D.L., T.P. Novak, and H. Kang (2016), "Anthropomorphism from Self-Extension and Self-Expansion: An Assemblage Theory Approach to Interactions Between Consumers and Smart Devices," presented at the ACR Annual Conference, Berlin, Germany, October 27-30.
41. Novak, T.P. and D.L. Hoffman (2016), "Visualizing Emergent Identity of Assemblages in the Internet of Things: A Topological Data Analysis Approach," presented at the ACR Annual Conference, Berlin, Germany, October 27-30.
42. Hoffman, D.L. (2016), "Object Experiences and Object Consumers," presented at the ACR 2016 Doctoral Consortium, Berlin, Germany, October 27.
43. Hoffman, D.L. and T.P. Novak (2016), "How to Market the Consumer IoT: Focus on Experience," presented at the MSI Conference on Marketing in the Consumer Internet of Things, September 30, Washington, DC.
44. Hoffman, D.L. and T.P. Novak (2016), "A Machine Learning and Data-Driven Visualization Framework for Studying Emergent Experience in the Consumer IoT," Paper presented at the Mobile + Social: Marketing Big Data Analytics Workshop 10th Triennial Invitational Choice symposium, Lake Louise, Canada, (University of Alberta) May 14-17.
45. Hoffman, D.L., Novak, T.P. and Kang, H. (2016), "Anthropomorphism from Self-Extension and Self-Expansion Processes: An Assemblage Theory Approach to Interactions between Consumers and Smart Devices," paper presented at the Society for Consumer Psychology Winter Conference, St. Pete Beach, FL, Feb 25-27.

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46. Novak, T.P. and D.L. Hoffman (2015), "Using Topological Data Analysis to Explore Emergent Consumer Experience from Digital Interactions," keynote presentation at the Center for Complexity in Business Annual Conference, Washington, DC, November 12-13.
47. Hoffman, D.L. (2015), "Consumer Experience in the Internet of Things," presented at the MSI Board of Trustees Meeting Finding Growth in Disruption, Phoenix, AZ, November 5-6.
48. Novak, T.P. and D.L. Hoffman (2015), "Using Topological Data Analysis to Explore Emergent Consumer Experience from Digital Interactions," presented at the NYU Conference on Digital Big Data, Smart Life and Mobile Marketing Analytics, New York, NY, October 23.
49. Hoffman, D. L. and T.P. Novak (2015), "Consumer Experience in the Connected World: How Emerging Technologies are Poised to Revolutionize Consumer Behavior Research," presentation in the roundtable (Hoffman and Novak co-chairs), 2015 Association for Consumer Research, New Orleans, October 1-3.
50. Hoffman, D.L. and T.P. Novak (2015)," Consumer Experience in the Internet of Things: Conceptual Foundations," paper presented in the invited plenary session "Future Consumer Worlds: How The Internet Of Things, Avatars, Robots, Cyborgs, And Human Enhancement Technologies May Change The Face Of Consumer Psychology- And Our Concept Of What It Means To Be "Human".," 2015 Society for Consumer Psychology 2nd International Conference, June, Vienna, Austria.
51. Hoffman, D.L., T.P. Novak and H. Kang (2015), "Let's Get Closer: How Regulatory Fit Drives Feelings of Connectedness in Social Media," paper presented in the symposium, "Social Media Experience: Implications for Well-Being, Word-of-Mouth and Brand Consumption," 2015 Society for Consumer Psychology Conference, February, Ritz-Carlton, Phoenix, AZ.
52. Hoffman, D.L. (2014), "Marketing in the Internet of Things," MSI Immersion Conference, Boston, MA, September 18-19.
53. Hoffman, D. L. & T.P. Novak (2014), "The Gamification of Smart Devices: Some Preliminary Thoughts on Concepts and Constructs," Winter AMA Pre-Conference Event on Games, Gaming and Gamification, Orlando, FL, February 21.

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54. Hoffman, D.L., T.P. Novak (2013), "The Social Life of Content: How Negative Motivations Can Lead to Positive Feelings in Social Media," MSI Conference on Social Media and Social Networks: What Are They Good For, Boston, MA, December 3-4.
55. Hoffman, D.L., T.P. Novak (2013), "Two Paths to Feeling Close and Connected in Social Media," Advertising and Consumer Psychology Conference, San Diego, CA, June 13-15.
56. Mintz, O. and D.L. Hoffman (2012), "The Impact of Strategic, Market, and Metric Orientation on Social Media Metric Use and Social Media Marketing Performance," Direct/Interactive Marketing Research Summit, Las Vegas, NV, October 13-14.
57. Novak, T.P. and D.L. Hoffman (2012), "Online Experience in Social Media: Two Paths to Connectedness," Association for Consumer Research, Vancouver, BC, October 4-7.
58. D.L. Hoffman, T.P. Novak and R. Stein (2012), "Predicting Identification with Social Media Groups: Flourishing Independents or Languishing Interdependents," Behavioral Decision Research in Management Conference, Boulder, CO, June 27-29.
59. D.L. Hoffman, T.P. Novak and R. Stein (2012), "Predicting Identification with Social Media Groups: Flourishing Independents or Languishing Interdependents," ISMS Marketing Science Conference, Boston, MA, June 7-9.
60. T.P. Novak and D.L. Hoffman (2012), "Relatedness Need Satisfaction During Social Media Goal Pursuit: The Influence of Online Social Identity and Motivations," Conference of the International Communication Association, Phoenix, AZ, May 24-28.
61. D.L. Hoffman and T.P. Novak (2012), "Need Satisfaction from Interacting with People Versus Content: The Roles of Motivational Orientation and Identification with Social Media Groups," Society for Consumer Psychology Annual Conference, Las Vegas, NV, Feb 16-18.
62. D.L. Hoffman, T.P. Novak, and R. Stein (2012), "The Determinants of Online Social Identity," Society for Consumer Psychology Annual Conference, Las Vegas, NV, Feb 16-18.
63. D.L. Hoffman and T.P. Novak (2012), "Need Satisfaction During Social Media Goal Pursuit: The Role of Motivational Orientation and Identification with Online Social Groups," Annual Meeting of the Society for Personality and Social Psychology, San Diego, CA, January 26-28.

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64. D. L. Hoffman (2011), "MSI 50th Anniversary Special Session in Support of Consumer Behavior Research," Association for Consumer Research North American Conference, St. Louis, MO, October 13-16, 2011.
65. D.L. Hoffman and T.P. Novak (2011), "Beyond Facebook: Emerging Trends for a Post-Social Media World," MSI Conference on Marketing in the Digital Age," October 5, Berkeley.
66. D.L. Hoffman and T.P. Novak (2011), "Why People Use Social Media," INFORMS Marketing Science Conference 2011, Rice University, June 9-11.
67. D. L. Hoffman and T.P. Novak (2010), "Retweet: A Digital Meditation on The Power of Twitter," original film, Association for Consumer Research North American Conference, Jacksonville, FL, October 7-10.
68. D.L. Hoffman and T.P. Novak (2010), "Roles and Goals: Consumer Motivations to Use the Social Web," INFORMS Marketing Science Conference 2010, Cologne, Germany, June 16-19.
69. D.L. Hoffman and T.P. Novak (2010), "Are Brand Attitudes Contagious? Consumer Response to Organic Search Trends," INFORMS Marketing Science Conference 2010, Cologne, Germany, June 16-19.
70. D.L. Hoffman, T.P. Novak and J. Silva-Risso (2010), "Validating Brand Tracking Data Against Organic Brand Search Trends," INFORMS Marketing Science Conference 2010, Cologne, Germany, June 16-19.
71. Hoffman, D.L. (2010), "Social Metrics for Social Media," Internet Metrics Session, MSI Pre-Conference Workshop on Marketing Spending, March 1.
72. Hoffman, D.L (2010), "Session One: Allocating Across the Media Mix," panelist, MSI Conference on Effective Marketing Spending, UCLA, March 2-3.
73. D.L. Hoffman and T.P. Novak (2009), "Are Brand Attitudes Contagious? Consumer Response to Organic Search Trends," Google and WPP Marketing Research Awards Conference 09, New York City, November 3.
74. Hoffman, D.L. (2009), "Navigating the Networked Rivers of the Social Web: Emerging Themes for Consumer Behavior Research on Web 2.X," ACR Roundtable, Association for Consumer Research Annual Conference, Pittsburgh, PA, October 22-25.

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75. Hoffman, D.L. (2009), "The "Right" Consumers for the Best Concepts: Identifying and Using Emergent Consumers in Developing Innovations," MSI Customer Insights for Innovation Conference, University of Miami School of Business, Coral Gables, FL, June 18-19.
76. Hoffman, D.L. (2009), "Decomposing Morris: A Curious Correspondence Analysis," "Morrisfest" Symposium, Graduate School of Business, Columbia University, May 8, (Invited)
77. Hoffman, D.L. P. Kopalle, and T.P. Novak (2008), "The "Right" Consumers for the Best Concepts: A Methodology for Identifying Emergent Consumers for New Product Development," ACR North American Conference, Hyatt Regency Hotel, San Francisco, CA, October 23-26. (presenter)
78. Hoffman, D.L. (2008), "Generating Customer Insights from the "Social Web:" Are Marketers Ready to Give Up Control?," Direct Marketers Educational Foundation (DMEF) Direct/Interactive Marketing Research Summit, Las Vegas Hilton, Las Vegas, NV, October 11-12. (Invited)
79. Hoffman, D.L. (2008), "Generating Customer Insights from the 'Social Web': Are You Ready to Give Up Control?," MSI Board of Trustees Meeting and Conference on New Insights on Customer Behavior, Langham Hotel, Boston, MA, April 10-11.
80. Hoffman, D.L., P. Kopalle, and T.P. Novak (2008), "The 'Right' Consumers for Concept Development: Development and Validation of a Scale to Measure Emergent Nature," UC/USC Marketing Colloquium, University of California, Irvine, April 4. (presenter)
81. Hoffman, D.L. (2008), "The Evolution of Customer Experience: 10 Trends You Can't Afford to Miss," (presentation and panel moderator) MSI/Sloan Conference on Leveraging Online Media and Online Marketing, UCR Palm Desert Campus and Hotel Miramonte Resort, February 6-8.
82. Hoffman, D.L. (2008), "User Generated Content," MSI/Sloan Conference on Leveraging Online Media and Online Marketing, UCR Palm Desert Campus and Hotel Miramonte Resort, February 6-8.
83. Hoffman, D.L. (2007), "Cognitive Augmentation: Can the Internet Make You Smarter and More Creative?" Sloan Center for Internet Retailing Networking Workshop, Riverside, CA, May 3-4.

Vita**Donna L. Hoffman****Page 26****July 2024**

84. Hoffman, D.L. and Novak, T.P. (2006), "Subject Recruitment and Panel Management: Experience and Observations Based on our Work Creating eLab and eLab 2.0," ACR Roundtable on Doing Better Web-Based Research, ACR North American Conference, Orlando, FL, September 28-October 1. (presenter)
85. Hoffman, D.L. (2006), "Perspectives on Marketing in the Electronic Marketplace: Challenges and New Directions for Research and Instruction," Technology and Innovation SIG Special Session, AMA Summer Marketing Educator's Conference, Sheraton Chicago Hotel and Towers, Chicago, IL, August 4-7, 2006.
86. Hoffman, D.L. (2005), "A Decade of Empirical Research Regarding the Internet," ACR Doctoral Symposium, San Antonio, TX, September 29."
87. Novak, T.P and D.L. Hoffman (2005), "The Impact of Consumer Thinking Style on Performance: Measure of Task-Specific Experiential and Rational Cognition," Marketing Science Conference, Emory University, Atlanta, GA, June 17.
88. White, T., D.L. Hoffman, and T.P. Novak (2005), "Forgotten Favors: Biased Account Keeping in Information-Driven Consumer-Seller Relationships," Society for Consumer Psychology Winter Conference, St. Petersburg, Florida, Feb 24-28.
89. Hoffman, D. L., P. Kopalle, and T. P. Novak (2004), "Identifying and Using Emergent Consumers in Developing Radical Innovations," ACR North American Conference, Portland, October 7-10.
90. Hoffman, D.L. "A Brief Overview of eLab Research," Inaugural Partner Conference, Vanderbilt University Sloan Center for Internet Retailing, November 7, 2003.
91. Hoffman, D.L., T.P. Novak and F. Wan (2003), "The Impact of Online Product Review Characteristics on Consumer Preferences," ACR North American Conference, Toronto, October 9-12.
92. Hoffman, D.L., T.P. Novak and F. Wan (2003), "The Impact of Online Product Review Characteristics on Consumer Preferences," UCLA CIBER/CMIE Conference, Managing in the Global Information Economy, Anderson Graduate School of Management, UCLA, September 12-13, 2003.
93. Hoffman, D.L., Novak, T.P. and Kumar, P. (2002), "How Processing Modes Influence Consumers' Cognitive Representations of Product Perceptions Formed from Similarity Judgments," Association for Consumer Research, Atlanta, October 16-20.

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94. Hoffman, D.L. (2001), "Consequences of the Web for Customers and Firms: Developing A Research Agenda for Internet Marketing," Presentation at the CMIE Conference: Research Directions in the Management of the Information Economy, Anderson Graduate School of Management, UCLA, February 9.
95. Hoffman, D.L., Novak, and Schlosser (2001), "Consumer Control in Online Environments," Society for Consumer Psychology Winter Conference, Scottsdale, Arizona, February 15-17.
96. Hoffman, D.L. (2000), "An Integrative Framework for Internet Commerce," Marketing Science Institute Board of Trustees Meeting, "Marketing Knowledge in the Age of E-Commerce," Loews Coronado Bay Resort, San Diego, CA, November 2.
97. Hoffman, D.L. Novak, T.P. and Schlosser, A. (2000), "Consumer Control in Online Environments," Association for Consumer Research, October 19-22.
98. Novak, T.P., Hoffman, D.L., and Yung, Y.F. (1999), "Modeling the Structure of the Flow Experience Among Web Users: A Structural Modeling Approach," Paper presented at the Association for Consumer Research Conference, September 30 – October 3, Columbus, Ohio.
99. Hoffman, D.L. (1999), "The State of the Field: Internet Marketing" panel moderated at the 1999 American Marketing Association Summer Educator's Conference, San Francisco, CA, August 7-10.
100. Hoffman, D.L. and T.P. Novak (1997), "New Metrics for New Media: Toward the Development of Web Measurement Standards," paper presented at the Special Session: Marketing on the Internet, 1997 INFORMS Marketing Science Conference, Berkeley, CA. March 21-24.
101. Hoffman, D.L. and T.P. Novak (1997), "Web Server Log File Analysis: Scanner Data for the New Millennium," paper presented at the Special Session: Web Server Log File Analysis, 1997 INFORMS Marketing Science Conference, Berkeley, CA. March 21-24.
102. Hoffman, D.L. (1996), "Communication Models and Media Measurement in Computer-Mediated Environments: Research Issues and Challenges" INFORMS Spring Conference on Information Systems and Technology, Panel on Web and IS Research, May 7.

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103. Hoffman, D.L. (1996), "Commerce in Cyberspace: What Role for Marketing Scientists?" Panel Discussion presented at the 1996 INFORMS Marketing Science Conference, Gainesville, March 7-10.
104. Chatterjee, P., D.L. Hoffman, and T.P. Novak (1996), "Modeling Consumer Response on the World Wide Web: Implications for Advertising," paper presented at the 1996 INFORMS Marketing Science Conference, The University of Florida, Gainesville, March 7-10.
105. Hoffman, D.L. and Novak, T.P. (1995), "Measuring the Internet," Sixth Conference on Organization Computing, Coordination and Collaboration International Conference on Electronic Commerce, University of Texas at Austin IC2 Institute, October 29-31, 1995.
106. Novak, T.P. and D.L. Hoffman (1995), "Consumer Behavior in Computer-Mediated Environments: Conceptual Foundations," poster presented at the Association for Consumer Research Conference, Minneapolis, MN, October 19-21.
107. Novak, T.P. and D.L. Hoffman (1995), "Marketing in Hypermedia Computer-Mediated Environments: Propositions," paper presented at the 1NFORMS Spring 1995 National Meeting, Los Angeles, April 24-26.
108. Hoffman, D.L. (1994), "Implications of Commercializing the Internet for Marketing Theory and Practice" The Marketing Information Revolution. AMA Summer Marketing Educators' Conference, San Francisco, August 6-9; and the AMA/Vanderbilt Frontiers in Services Conference, October.
109. Hoffman, D.L. and de Leeuw, J. (1993). Benefit Segmentation and Structuring in Service Business Markets. Paper presented at the TIMS Marketing Science Conference, Washington University, March 11-14.
110. Hoffman, D.L. and Lilien, G. (1992). Assessing the Direction and Magnitude of Perceptual Bias in Relative Influence Judgments. Paper presented at the ORSA/TIMS Joint National Meeting, San Francisco, CA, November 2-4.
111. Hoffman, D.L. (1992). Measuring Customer Perceptions of Service Quality. Invited paper presented at the AMA/Vanderbilt Services Marketing Conference.
112. Hoffman, D.L. and de Leeuw, J. (1992). A Two-Stage Procedure for Analyzing Automobile Switching: The Car Challenge. Invited paper presented at the TIMS Marketing Science Conference, London Business School, July 12-15.

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113. Hoffman, D.L. and de Leeuw, J. (1992). Using Optimal Scaling to Improve Model Estimates from LISREL. Paper presented at the TIMS Marketing Science Conference, London Business School, July 12-15.
114. Hoffman, D.L. and de Leeuw, J. (1991). Linearizing Nonlinear Association with Optimal Scaling: Reducing Bias and Improving Stability in Multivariate Linear Models. Paper presented at the ORSA/TIMS Joint National Meeting, Anaheim, CA, November 3-6.
115. Steenkamp, J.-B. and Hoffman, D.L. (1991). Quantifying Brand Equity Maps. Paper presented at the Annual Conference of the Deutsche Gesellschaft für Operations Research, Stuttgart, Germany, September 4-6.
116. Hoffman, D.L. & Steenkamp, J.-B. (1991). A Judgmental Approach to the Measurement of Brand Equity. Paper presented at ORSA/TIMS Marketing Science Conference, University of Delaware and DuPont Company, March 21-23.
117. Hoffman, D.L. & Lilien, G.L. (1990). Relative Influence in Husband-Wife Decision Making: Threats to Validity in the Key Informant Problem. Paper presented at ORSA/TIMS Marketing Science Conference, University of Illinois, March 22-25.
118. Hanssens, D.M. & Hoffman, D.L. (1989). Strategic Maps for Product Portfolio Management. Paper presented at ORSA/TIMS Joint National Meeting, New York, October 16-18.
119. Hanssens, D.M. & Hoffman, D.L. (1989). Monitoring the effectiveness of marketing strategy for a product line. Paper presented at ORSA/TIMS Marketing Science Conference, Duke University, March 17-19.
120. Hoffman, D.L. (1988). A methodology for analyzing asymmetric structure in transition matrices. Paper presented at ORSA/TIMS Joint National Meeting, Denver, October 23-26.
121. Novak, T.P. & Hoffman, D.L. (1987). Graphically representing nested log-linear models through decomposition of deviance residuals. Paper presented at Psychometric Society Annual Meeting, Montreal, June 17-19.
122. Hoffman, D.L. & Novak, T.P. (1986). Analyzing square data tables with residual scaling. Paper presented at ORSA/TIMS Joint National Meeting, Miami, October 27-29.

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123. Hoffman, D.L. & DeSarbo, W. (1986). Constructing joint space maps from "pick-any/n" data: An illustration of a new stochastic unfolding model. Paper presented at TIMS XXVII International Meeting, Gold Coast City, Australia, July 21-23.
124. Hoffman, D.L. & DeSarbo, W. (1985). An unfolding choice model for binary data. Paper presented at ORSA/TIMS Joint National Meeting, Atlanta, November 4-6.
125. Hoffman, D.L. & Batra, R. (1985). Contingent effects of program environment on advertising effectiveness. Paper presented at Annual Association for Consumer Research Conference, Las Vegas, October 17-20.
126. DeSarbo, W. & Hoffman, D.L. (1985). Simple and weighted unfolding threshold models for the spatial representation of binary choice data. Paper presented at the ORSA/TIMS Marketing Science Conference, Vanderbilt University, March 6-9.
127. Hoffman, D.L. (1984), A Marketing Application of Correspondence Analysis. Paper presented at ORSA/TIMS Marketing Science Conference, University of Chicago, March 12-14.

Invited University Research Seminars

"Object-Oriented Metaphorism as a Mechanism for Understanding AI," Baruch College, Zicklin School of Business, New York City, November 1, 2019; Boston University Zoom Behavior Lab, July 29 (online seminar); Department of Marketing Fall Seminar Series, Schulich School of Business, York University, October 22, 2020 (online seminar).

"Quantifying Assemblage Theory: A Conceptual Empirical, and Data-Driven Approach to Guide Discovery," Wharton School/York University Language Lab, August 20, 2020 (online seminar).

"Reifying the Possibility Space of IoT Automation Practices: A Machine Learning Approach," Keynote, Voya Financial Colloquium: Innovation and Technology in Marketing, University of Connecticut, September 27, 2019; Baruch College, Zicklin School of Business, New York City, November 1, 2019.

"A Computational Consumer Culture Approach to Visualizing the Possibility Space of Automation Assemblages," Ivey Business School, Western University, Canada, November 2, 2018; University of Hong Kong (HKU), January 17, 2019; Boston University Marketing Department Seminar Series, February 12, 2019; Southern California Consumer Culture Community, Annenberg School, University of Southern California, March 8, 2019; John Hopkins University Carey Business School Marketing Department Seminar Series, March 20, 2019.

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“An Assemblage Theory Approach to Consumer Experience and Consumer-Object Relationships,” Marketing Ph.D. Student Workshop, University of Hong Kong (HKU), January 22, 2019.

“Mining the Secret Life of Objects,” University of Hong Kong (HKU), Visiting Scholar Presentation, January 17, 2019.

“A Computational Social Science Framework for Visualizing Emergent Consumer Experience from IoT Interaction Data,” Stanford Graduate School of Business Marketing Department Seminar Series, February 13, 2018; Temple University Data Science Institute Seminar Series, April 10, 2018; University of California Berkeley Haas School of Business Marketing Department Seminar Series, April 23, 2018; UCSD Rady School Marketing Department Brown Bag Seminar Series, May 9, 2018; UCI Marketing Department Seminar Series, June 8, 2018; University of Geneva, School of Economics and Management, June 21, 2018.

“Send ‘Her’ My Love: A Circumplex Model for Understanding Relationship Journeys in Consumer-Smart Object Assemblages,” York University, September 29, 2017.

“Consumer and Object Experience in the IoT: An Assemblage Theory Perspective,” Georgetown University Marketing Department Research Seminar Series, November 4, 2016; UCSD Rady School of Management Marketing Department Research Seminar Series, March 16, 2017; University of Maryland Marketing Department Research Seminar Series, March 29, 2017; Virginia Tech Northern Virginia Center Marketing Department Research Seminar Series, March 31, 2017; University of Illinois marketing Department Research Seminar Series, April 21, 2017.

“Emergence from Interaction in the Consumer Internet of Things: An Assemblage Theory Approach,” Marketing Research Symposium, Lazaridis School of Business and Economics, Wilfrid Laurier University, April 21, 2016.

“Online Experience in Social Media: Two Paths to Connectedness,” Department of Marketing, Goethe-University in Frankfurt/Main, September 14, 2012.

“Beyond Facebook: Friendly Devices” Stanford SIEPR Policy Forum, Social Media and the Connected Economy, Stanford University, November 18, 2011.

“Augment Me: Marketing Strategies for a Post-Social Media World” Baker Speaker Series, Wharton School, University of Pennsylvania, September 29, 2011.

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"Why People Use Social Media: How Online Social Identity and Motivations Influence the Experience of Being Connected," University of Miami School of Business Department of Marketing Seminar, October 5, 2010; University of Pittsburgh Katz School of Business Department of Marketing Seminar, July 8, 2011; Wharton School, University of Pennsylvania, September 30, 2011.

"Are Brand Attitudes Contagious: Consumer Response to Organic Search Trends," University of Notre Dame Mendoza College of Business Marketing Department Seminar, December 4, 2009; University of Washington Marketing Foster School of Business Marketing Seminar Series, February 12, 2010; University of Miami School of Business Department of Marketing Seminar, October 5, 2010; University of Southern California Marshall School of Business Marketing Seminar Series, September 17, 2010.

"Consumer Thinking Style, Task Congruence, and Performance: New Measures of Task-Specific Experiential and Rational Cognition," Distinguished Speaker Series, College of Management, Georgia Institute of Technology, Atlanta, GA, October 20, 2005; Stellner Scholar Distinguished Guest Lecture presented at the College of Business, University of Illinois, Champaign Illinois, November 18, 2005; Invited Seminar, University of California, Riverside, December 8, 2005.

"Identifying and Using Emergent Consumers in Developing Radical Innovations," Distinguished Speaker Series, College of Management, Georgia Institute of Technology, Atlanta, GA, October 20; Stellner Scholar Distinguished Guest Lecture presented at the College of Business, University of Illinois, Champaign Illinois, November 18; Invited Seminar, University of California, Riverside, December 8; 2005; Sloan Industry Studies Centers' Annual Conference, Georgia Institute of Technology, April 19-21, 2004; Tuck Marketing Seminar Series, Dartmouth University, March 19, 2004.

"The Impact of Online Product Review Characteristics on Consumer Preferences," Graduate School of Management, University of California, Irvine, July 8, 2003.

"Research Directions for E-Commerce," Anderson Graduate School of Management, UCLA, February 2001.

"The Internet is a New Marketing Paradigm" Graduate School of Business, Stanford University, July 12, 2000; Haas School of Business, Berkeley, July 25, 2000 (with T.P. Novak)

"Integrating the Internet into Scholarly Research Paradigms," Marketing Seminar, Stern School of Business, New York University, March 4-5, 1999 (with T.P. Novak)

"Modeling the Structure of the Flow Experience Among Web Users," Information Systems/Marketing Seminar, Stern School of Business, New York University, March 4-5, 1999. (with T.P. Novak)

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"Measuring the Flow Experience Among Web Users" Stanford Marketing Camp, July 17-20, 1997. (with T.P. Novak)

"Marketing In Computer-Mediated Environments: Research Issues and Challenges," CRITO, University of California at Irvine, May 3, 1996 (with T.P. Novak)

"Marketing in Hypermedia Computer-Mediated Environments: Implications for Commercialization of the World Wide Web" Interval Research Corporation, October 1994; Stanford University Marketing Seminar, August 3, 1995. (with T.P. Novak)

"Graphical Models of Consumer Perception and Preference" University of North Carolina, November 1992.

"Maximizing Customer Satisfaction Through Market-Driven Quality," University of Texas at Dallas, March 1992; Vanderbilt 1992

"Asymmetric Residual Maps for Market Structure Analysis" Marketing Modeler's Group NY, March 1987; University of Washington, December 1988; Fourth Annual Texas Universities' Marketing Faculty Research Colloquium, Texas A&M University, April 4-5, 1991; Second Annual AMA ART Forum, Beaver Creek, Colorado, June 1991; University of Utah, March 1992; Carnegie Mellon University, April 1992; University of Groningen, May 1992.

"Dyadic Disagreement: An Exploratory Analysis of Household Purchase Influence and Reporting Bias," Pennsylvania State University, November 1990.

"Diagnostic Maps for Product Line Monitoring" UCLA July 1989; Columbia Summer Workshop June 1989; University of Iowa, February 1990; University of Texas at Dallas, February 1990.

"Correspondence Analysis and Related Methods" UCLA (Psychology) April 1987; University of Washington, December 1988.

"Residual scaling and the Analysis of Asymmetric Market Structure" Sixth Annual Columbia/Wharton Joint Seminar, January 30, 1987.

Invited Industry and Government Seminars and Conferences

Hoffman, D.L. (2019), "AI and the Future of Marketing: From Efficiency to Experience," Marketing Edge Board of Trustees Meeting, George Washington University School of Business, October 10.

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Hoffman, D.L. (2019), "AI and the Future of Retailing: From Efficiency to Experience," New Insights on Retail Evolution from Top Universities, ShopTalk 2019, March 3.

Hoffman, D.L. (2018), "The IoT: Opportunities and Challenges," Presentation to the StarTech.com Marketing Roundtable, Ivey Spencer Leadership Centre, Ivey Business School, Western University, Canada, November 1.

Novak, T.P. and D.L. Hoffman (2018), "A Computational Social Science Framework for Representing Emergent Consumer Experience," Presented at Ayasdi, Inc., Menlo Park, CA, May 22.

Novak, T.P. and D.L. Hoffman (2018), "A Computational Framework for Visualizing the Possibility Space of Emergent Consumer Experience," Presented at IFTTT, San Francisco, CA, April 24.

Hoffman, D.L. (2017), "The Impact of the Internet of Things on Consumers and Business," Keynote presentation at the EFMI Vision on Food Congress 2017, Theme: "Food for Thought," Kasteel De Vanenburg, Putten, Netherlands, May 23.

Novak, T.P. and D.L. Hoffman (2016), "Using Topological Data Analysis (TDA) to Visualize Interaction Events from IFTTT Recipes and Smart Home Sensors," Presented at Ayasdi, Inc., Menlo Park, CA March 10.

Hoffman, D.L. and T.P. Novak (2016), "How to Market the Smart Home: Focus on Emergent Experience, Not Uses Cases," Presented at CBS Interactive, San Francisco, CA, March 11.

Hoffman, D.L. (2016), "How to Market the Smart Home: Focus on Emergent Experience, Not Use Cases," Presented at Brite '16, Columbia University, NY, NY, March 7.

Novak, T.P. and D.L. Hoffman (2015), "Exploring Emergent Consumer Experience: A Topological Data Analysis Approach," Presented at IFTTT, San Francisco, CA, November 25.

"The Digital Customer," Discussion, 2012 SAP CEO Event, March 16, 2012.

"Are Brand Attitudes Contagious: Consumer Response to Organic Search Trends," Paper presented at the Google/WPP Marketing Research Awards, November 3, 2009.

"What is Web 2.0?" Business Leaders Roundtable, UCR Palm Desert Graduate Center, March 12, 2009.

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“Emergent Consumers Can Help Develop Successful Future Ideas,” Discussion Paper presented at the NSF GENI Opt-In Workshop, Charles Hotel, July 20-21, 2008 (Presenter. Co-authored with T.P. Novak)

“Examining How the “Social Web” is Creating New Opportunities – And Possible Threats,” eTail 2008, JW Marriott Desert Springs, Palm Desert, CA, February 11-14, 2008.

“The Evolution of Customer Experience: 10 Trends You Can’t Afford to Miss,” Shop.org Annual Summit, Mandalay Bay Resort, Las Vegas, NV, September 17-19, 2007.

“The Evolution of Customer Experience: 10 Trends You Can’t Afford to Miss,” MarketLive E-Commerce Summit, Fairmont Sonoma Mission Inn, Sonoma, CA, June 18-20, 2007.

“How to “Lock in” Your Customers ... and Lure Them Away from Competitors,” Panel Presentation at the 2005 Shop.org Annual Summit, Las Vegas, NV, Sept 12-14, 2005.

“Managing the Customer Chain: From Theory to Practice,” Presentation to the Nashville Technology Council, Tech Roundtable, October 2, 2003.

“Do You Really Understand Your Customers,” Panel Presentation at the 2003 Shop.org Annual Summit, New York City, Sept 24-26, 2003.

“The Consumer Experience: A Research Agenda Going Forward,” FTC Public Workshop 1: Technologies for Protecting Personal Information: The Consumer Experience. Panel: “Understanding How Consumers Interface with Technologies Designed to Protect Consumer Information,” May 14, 2003

“eLab: A Model for Online Consumer Behavior,” Keynote address, American Marketing Association EXPLOR Forum, Chicago, Nov 21-22, 2002.

“Internet Advertising: From CPMs to Results,” United States Securities and Exchange Commission Portals Roundtable: Relationships Between Broker-Dealers and Web Sites, May 23, 2001.

“An Integrated Framework for Internet Commerce,” Presentation at the CMIE Conference Accelerating Change in the Information Economy Anderson Graduate School of Management, UCLA, February 7-8, 2001.

“An Integrated Framework for Internet Commerce,” DaimlerChrysler, Stuttgart, Germany, January 2001.

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"Today's Web Consumer," Presentation to the Round Table Group E-Commerce Bootcamp, Gleacher Center, Chicago, June 26, 2000.

"Internet Commerce in Action," Presentation at the Sterling Commerce Secrets of the E-Business Masters E-Business Strategies Conference, May 8-11, 2000.

"The Internet Revolution and Consumer Privacy: Can They Coexist?" Keynote presented at the Skadden, Arps, 2000 Women's Retreat, Four Seasons Resort, Palm Beach, May 19-21, 2000.

"The Evolution of the Digital Divide: Implications for a Research Agenda," Invited presentation at the Digital Divide Seminar, Markle Foundation, February 14, 2000.

"A Model of Stickiness," Invited paper presented at the *Industry Standard* Internet Summit 99, Ritz-Carlton Laguna Niquel, July 18-20, 1999.

"The Digital Divide: Issues for the Diffusion of Electronic Commerce," Invited paper presented at "The Digital Economy: New Research, Data, and Tools," White House Conference sponsored by NSF, the Department of Commerce and the OECD, May 25-26, 1999 (with T.P. Novak)

"Internet Commerce in Action," Mini-Keynote presentation at the Sterling Commerce Worldwide Conference, *EC Strategies*, Chicago, May 13, 1999.

"Issues of Equity, Privacy, and Commercialism," Invited paper and moderated session presented at The Internet and the Family Conference, Annenberg Public Policy Center National Press Club, Washington, DC, May 4, 1999.

"Linking Internet Marketing with Business Practice: The State of the Field," Invited paper presented at the MSI 1998 Fall Board of Trustees Meeting: From Here to '00: Putting Our Priorities to Work, Phoenix AZ, November 5-6, 1998 (with T.P. Novak)

"Are Women Different?: Gender differences in Web Shopping Behaviors and Their Implications for Internet Business Strategy" Special Seminar, Tools for Building Relationships with the Millennium Woman, iVillage.com and Fast Company. September 24, 1998.

"The Internet Opportunity," Keynote address with Tom Novak at the Future Media Research Programme, London Business School, June 4, 1998.

"Internet Commerce: The Ever Changing Landscape," Sterling Commerce Executive Symposium in partnership with FORTUNE Conference Division "Building the Next Generation Enterprise: Reshaping Your Business with Electronic Commerce" Royal York Hotel, Toronto, Canada, May 12-14, 1998.

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"The State of the Industry," Opening Keynote at the 1998 CMA Music Industry & New Technologies (MINT) Conference May 13, 1998.

"Integrating the Internet into Your Electronic Commerce Strategies," AHMA, Marcos Island, Florida, January 25-27, 1998.

"Information Privacy in the Marketplace: Implications for the Commercial Uses of Anonymity on the Web," American Association for the Advancement of Science conference, "Anonymous Communications on the Internet: Uses and Abuses," November 21-23, University of California, Irvine, 1997.

"Measuring the Audience: Where Top Researchers Agree and Diverge" Online News Summit, New York Hilton Hotel, New York City, September 11-12, 1997.

"Privacy and Electronic Commerce," EFF/Silicon Valley Industry Briefing with Ira Magaziner on "Global Electronic Commerce and Personal Privacy Protection." August 5, 1997.

"Segmenting the Online Consumer Market: Preliminary Findings," Interval Research Corporation, Palo Alto, CA, July 31, 1997

"Measuring the Flow Experience Among Web Users" Stanford Marketing Camp, July 17-20; Interval Research Corporation, Palo Alto, CA, July 31, 1997

"Integrating the Internet into Your Electronic Commerce Strategy" Sterling Commerce Executive Symposium, Hotel Inter-Continental, Miami May 12-13, 1997.

"New Metrics for New Media: Toward the Development of Web Measurement Standards" Keynote Address, IQPC Performance Measurements for Web Sites, Hotel Nikko, San Francisco, February 24-26, 1997.

"Advertising Pricing Models for New Media," Internet Publishing and Beyond: The Economics of Digital Information and Intellectual Property, Kennedy School of Government, Harvard University, Jan 23 - Jan 25, 1997.

"Getting a Grip on Your Technology Strategy" *Fortune* 500 CEO Forum, November 14-16, 1996.

"Commerce on the Internet: Emerging Models" Future of Interactive Marketing Conference, Harvard Business School, May 22-24, 1996; Intel Corporation, Santa Clara, CA, August 12, 1996; Interdisciplinary Aspects of the Electronic Superhighway Seminar, George Washington University, School of Engineering and Applied Science, October 15, 1996.

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"Envisioning the Future of Internet Marketing: Understanding the Consumer and Market Response," MIT Sloan School, September 18-19, 1996.

"Internet Research Methodology Workshop" Microsoft Corporation, September 5, 1996.

"Workshop on Flow Measurement Methodology" Interval Research Corporation, August 1, 1996

"Going with the Flow: Tapping Consumer Experience on the Net" Spotlight Executive Conference Directing the Future of Interactive Media, July 28-30, 1996.

"New Metrics for New Media" Netscape Communications Corporation, July 18, 1996.

"Who Is On the Net?: Implications for Commercial Development," Interval Friday Forum, Interval Research Corporation, Dec. 15 1995; Netscape Communications Corporation, April 18 1996; Stanford Breakfast Briefing Series, July 11, 1996; University of Santa Clara, July 15, 1996.

"Consumer Data and Demographics" Wharton Forum on Electronic Commerce, May 9-10, 1996.

"Leveling the Playing Field: Mass Communication vs. Mass Media," presentation at the Sixth Conference on Computers, Freedom, & Privacy, March 27-30, 1996.

"Commercial Scenarios for the Web: Opportunities and Challenges" Interval Internet Symposium, Interval Research Corporation, February 23 1995; Harvard Business School Colloquium, Multimedia and the Boundaryless World, November 15-17, 1995.

"What Is the Internet and How Can It Help Your Business?" CABLE, Loews Vanderbilt Plaza, October 11, 1995.

"Understanding the Internet Audience "Keynote Address, Net Profits: Doing Business on the Internet, Sheraton Palace, San Francisco, August 1-2, 1995. *[ranked in top 3 of speakers, with Ted Leonsis, President, AOL and Scott Cook, Chairman, Intuit]*

"Business Models that Work on the Net," Net Profits: Doing Business on the Internet, August 1-2, 1995; InterAct '96.

"Measurement Implications of the Internet," Bellcore Measurements Research Symposium, May 18, 1995.

"Correspondence Analysis and Related Methods" 192nd American Chemical Society Meetings, September 1986; First Annual AMA ART Forum, Incline Village, Nevada, June 1992.

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"Program Impact: The Key Measure of Audience Response" Beyond Ratings Conference, Columbia University, October 19, 1984.

George Washington University Research Seminars and Events

GWWIB (Women in Business) Panel on Marketing and Advertising, Moderator, April 1, 2023.

"How the Internet of Things is Going to Change Everything," George Talks Business, February 25, 2019. <https://business.gwu.edu/george-talks-business>

"How to Market the Consumer IoT: Focus on Experience," GWSB Board of Advisors Presentation, September 23, 2016.

"The Center for the Connected Consumer," GWSB Faculty Meeting Presentation, January 23, 2015.

"Consumer Experience in the Smart Home: An Assemblage Theory Perspective," GWSB Marketing Department Brownbag, February 20, 2015.

"The Social Life of Content: How Introjected Motivation Leads to Feeling Close and Connected in Social Media," GWSB Research Brownbag, Dec 12, 2013.

UC Riverside Research Seminars and Events

"Sloan Center Overview," Sunstar Delegation Visit to AGSM, Alumni Center, April 16, 2008.

"The Evolution of Customer Experience: 10 Trends You Can't Afford to Miss," Back to Class, UC Riverside Homecoming 08, February 23, 2008.

"The Search for Significance: Emergent Nature and Concept Development," MAMA, November 13, 2007.

"How to 'Lock in' Your Customers and Lure Them Away From Competitors," CUC Alumni Breakfast, February 28, 2007.

"The Sloan Center for Internet Retailing and eLab 2.0," AMA Student Club Meeting, UC Riverside, November 1, 2006.

"eLab 2.0 Online Research," MAMA, Department of Psychology, October 30, 2006.

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Vanderbilt University Events

"Can We Live Without the Internet? Pondering the Implications of Internet Indispensability," VU Commencement Faculty Seminar, May 12, 2005.

"Privacy on the Internet: Key Ethical Issues and Challenges," Cal turner Program for Moral Leadership in the Professions, Student Discussion Series: Professions and Privacy, Feb 18, 2005.

"E-Commerce at the Owen School," Faculty Presentation at Diversity Weekend, December 1, 2001.

Owen Strategic Planning On-Site Retreat, Owen Corporate Council, November 8, 2001.

"Electronic Commerce at Owen and the Vanderbilt eLab Initiative," Invited presentation to the IBM Industry Solutions Lab, May 24, 2000.

"Electronic Commerce at the Owen School," Presentation to the Owen Graduate School of Management, Alumni Association Board of Directors, April 28, 2000.

"Owen's Electronic Commerce Advantage," Invited paper presented at the First Annual Scholar's Weekend, Owen Graduate School of Management, Vanderbilt University, March 25-28, 1999.

"Who's Making Money on the Internet? (Hint: It's Not Who You Think!)," Owen 7:29 Breakfast Group, Ingram Industries, March 25, 1998.

"The Revolution Will Not Be Televised" Vanderbilt Alumni Reception, Capital City Club, February 1995; Nashville Forum, Stadium Club, September 7, 1995.

TEACHING

Post-Doctoral Supervision

Hyunjin Kang (Communications, Pennsylvania State University, Ph.D. 2013)

First placement: Assistant Professor of Communication, Wee Kim Wee School of Communication and Information, Nanyang Technological University, Singapore

Randy Stein (Psychology, Yale University, Ph.D. 2011).

First placement: Assistant Professor of Marketing, Cal Poly Pomona.

Terry Daugherty (Communications, Michigan State University, Ph.D. 2001).

First placement: Assistant Professor of Advertising, University of Texas at Austin.

Fang Wan (Communications, University of Minnesota, Ph.D. 2002).

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First placement: Assistant Professor of Marketing, University of Manitoba.

Doctoral Dissertation Committees

Nadia Daniente (Marketing, Gies College of Business, University of Illinois, Ph.D. Expected 2021). Member. Dissertation topic : "Me, Myself, and AI: The Impact of Artificial Intelligence on Marketing and the Self."

Abishek Borah (Marketing, Marshall School of Business, USC, Ph.D. 2013. First placement : University of Washington, Seattle). Member. Dissertation topic : "Essays in Consumer Conversations in Social Media."

Jean-François Guertin (Marketing, HEC Montreal, Ph.D. 2011. First placement : University of Sherbrooke). Member. Dissertation topic : "Three Essays on the Development, Validation and Confirmation of the Flow Construct to Investigate Navigational Web Site Experience"

Ofer Mintz (Marketing, UC Irvine, Ph.D. 2012. First placement: LSU). Member. Dissertation topic: "What Drives Managerial Use of Marketing vs. Financial Metrics and Does it Impact Performance?"

Patrali Chatterjee (Marketing, Vanderbilt University, Ph.D.1998. First placement: Assistant Professor, Rutgers University). Co-Chair. Dissertation topic: "Modeling Consumer Response in World Wide Web Sites - Implications for Advertising."

Anand Narasimhan (Organizational Theory, Vanderbilt University.1997. First placement: Assistant Professor, London School of Business) Co-Chair. Dissertation topic: "Interpretive Stance in Inchoate Industries"

Scott Eggebeen, Ph.D. Measurement, Evaluation and Statistics 1988 (Columbia).

Richard Columbo, Ph.D. Marketing 1987 (Columbia).

Doctoral Qualifying Committees

Brynn Nodarse, UCR Psychology 2007 orals

Abishek Borah, USC Marshall School of Business, 2011 orals

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Doctoral Consortia

Co-Chair, ACR Doctoral Symposium, 2018

Faculty, AMA Doctoral Consortium, 2017

Faculty, SCP Doctoral Consortium, 2015

Faculty, ACR Doctoral Consortium, 2010

Resident Faculty, AMA Doctoral Consortium, New York University, July 29 - August 2, 1987

Courses

Undergraduate: AI and Marketing Strategy; Marketing Strategy: Based on First Principles and Data Analytics; Integrated Marketing Communication

MBA Program: AI and Marketing Strategy; Marketing Strategy: Based on First Principles and Data Analytics; Integrated Marketing Communication; Marketing Strategy and Planning; Digital Commerce Strategy; Strategic Brand Management; New Product Development; Product Management; Internet Marketing Strategy; Managing the Internet Retailing Customer Chain

EMBA Program: Marketing Management (Core); Marketing Planning (Marketing II)

Doctoral Seminars: Marketing in Computer-Mediated Environments; Online Consumer Behavior; Nonlinear Multivariate Analysis of Marketing Data

Executive Teaching

Stanford University Professional Education Executive Programs

Market Strategy for Technology-Based Companies

Faculty, Marketing on the Web I & II, 1996: April 17-19; October 23-25; 1997: April 23-25; October 29-31; 1998: March 18-20.

Columbia Business School Executive Programs, Arden House

Case Discussion Leader, Marketing Management Program 1985-1989

Faculty, Marketing Research Program 1985

Assistant Director, Marketing Management Program 1984-1986

Columbia Business School Executive Programs, Special Programs Division

Faculty, Marketing Management Program, Equitable, Inc., Morristown & Tarrytown, 1988-1989

Faculty, Marketing Management Program, Homequity, Inc., Connecticut, 1985

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SERVICE

Editorial Activities

Editor

Journal of Marketing, Special Issue Co-Editor, "New Technologies and Marketing," 2019-2021
Marketing Intelligence Review: IoT Experiences, Co-Editor, 2018
Journal of Interactive Marketing, Special Issue Editor, "Social Media," 2011
Information Systems Research (Marketing area), Special Issue Editor, 2000-2001
Marketing Science, Special Issue Editor, "Marketing Science and the Internet," 1999-2000

Departmental Editor

Electronic Commerce Research (Marketing Department)

Associate Editor

Journal of Consumer Psychology, 2024-present
Journal of Marketing, summer 2018-present
Journal of Consumer Research, 2020-2022
Journal of Marketing Research, Guest AE on multiple manuscripts

Editorial Boards

Journal of Marketing -through 2018
Journal of Consumer Research, - Dec 2020, 2022-present
Journal of Marketing Research (2012-)
Journal of Consumer Psychology, (-present)
Journal of Interactive Marketing, Editorial Board founding member 1996-present
International Journal of Electronic Commerce, 1995-present
Social Science Research Network, 2002-present (Advisory Board)
International Journal of Marketing Education, 2002-present

Advisory Panels

Society for Consumer Psychology, 2012-2015

Vita**Donna L. Hoffman****Page 44****July 2024****Past Memberships**

Journal of Electronic Commerce (Founding Member), Marketing Letters (member of Academic Advisory Board and former member of Editorial Board), Marketing Science (off in 2002), EC World (Founding Member), Managerial Marketing Abstracts, Marketing Research Network

Ad Hoc Reviewing

Journal of Consumer Research, Academy of Management Review, Management Science, Marketing Science, Communications of the ACM, Journal of Computer-Mediated Communication, Journal of Marketing, Journal of Marketing Research, Psychometrika, International Journal of Research in Marketing, Applied Psychological Measurement

Conference Reviewing

2022, Society for Consumer Psychology

2021, ACR Annual Conference

2020 ACR Annual Conference, Associate Editor

2015 Society for Consumer Psychology International Conference

2009 ACR Asia-Pacific Conference (reviewed in 2008)

Society for Consumer Psychology 2008, 2009, 2010, 2011

ACR Annual Conference 1991, 1992, 1999, 2000, 2002, 2003, 2004, 2005, 2008, 2010

AMA Summer Educator's Conference, 1989, 1990, 1991, 1992

AMA Winter Educator's Conference, 1991, 1992, 1993, 1994, 1995

Other Significant Reviewing*Grants*

National Science Foundation (various programs)

Research Competitions

John A. Howard American Marketing Association Dissertation Competition, Blue Ribbon Panel, 2015

John A. Howard American Marketing Association Dissertation Competition, numerous years-present

Marketing Science Institute Alden Clayton Doctoral Dissertation Competition, numerous years, 2006-present

MSI - Journal of Marketing Research competition on "Practitioner-Academic Collaborative Research

SCP Doctoral Dissertation Competition, numerous years, 2006, 2007, 2008

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Research Reports

National Research Council Computer Science and Telecommunications Board
ETS Scholastic Achievement Test, Irwin

Conference Organization

Conference Chair

GWSB Inaugural Conference on the Intelligence of Things: Year 1: Research Opportunities and Challenges, April 5, 2019 (Co-Chair)

Association for Consumer Research Doctoral Symposium, Dallas, TX. October 11, 2018 (Co-Chair)

MSI Conference on Marketing in the Consumer Internet of Things, Washington, DC, September 30, 2016 (Co-Chair)

Direct/Interactive Marketing Research Summit, Las Vegas, NV, October 13-14, 2012 (Co-Chair)

Marketing Science Institute/Sloan Center for Internet Retailing Leveraging Online Media and Online Marketing, UC Riverside Palm Desert Campus and Hotel Miramonte Resort, February 6-8, 2008 (Co-Chair)

Association for Consumer Research Pre-Conference Consumers Online: Ten Years Later, October 25, 2007 (co-chair)

UCR Sloan Center for Internet Retailing Research Networking Workshop, May 3-4, 2007

AGSM Deliberative Dialogue Conference Featuring Duke University Professor Richard Staelin, April 6, 2007

Inaugural Partner Conference, Vanderbilt Sloan Center for Internet Retailing, 2003 (co-chair)

First INFORMS Marketing Science and the Internet Conference, Co-Chair, 1998

Second Annual Columbia Summer Marketing Workshop: Arden Homestead 1989

Sixth Annual Columbia/Wharton Joint Seminar: Columbia University, 1987

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Columbia Center for Telecommunications and Information Studies, "Beyond Ratings: New Directions in Audience Measurement Research": Columbia University, 1984.

Session/Track Chair

ACR North America (special session organizer); San Diego, CA 2017
Winter AMA (special session organizer); Orlando, FL, 2017
SCP (symposium organizer); St. Pete Beach, 2016
ACR North America (special session/roundtable organizer); New Orleans 2015
SCP (special session organizer); Phoenix, 2015
INFORMS Marketing Science Conference (track co-organizer); Atlanta 2014
INFORMS Marketing Science Conference (track co-organizer); Istanbul, 2013
INFORMS Marketing Science Conference (track co-organizer); Boston, 2012
ACR North America (MSI Special Session organizer, with Punam Anand Keller), St. Louis, 2011.
ACR North America (roundtable organizer), Pittsburgh, 2009.
ACR North America Conference (special session organizer), Portland, 2004.
ACR North American Conference (special session organizer); Toronto, 2003.
AMA Summer Educator's Conference (panel organizer); San Francisco, 1999
INFORMS Marketing Science Conference (panel organizer); Berkeley, 1997
INFORMS Marketing Science Conference (panel organizer); Gainesville, 1996
INFORMS Spring National Meeting (session chair); Los Angeles, 1995
TIMS XXX-Sobrapo XXIII Joint International Meeting (track chair): Rio de Janeiro 1991
ORSA/TIMS Marketing Science Conference (session chair): Berkeley 1997; Gainesville 1996;
Tucson 1994; Seattle 1988; Dallas 1986; Nashville 1985
ORSA/TIMS Joint National Meeting (session chair): Denver 1988; Miami 1986; Anaheim 1991
Los Angeles 1995
ACR Annual Conference (special session chair): Las Vegas 1985

External Administrative Service

Chair, External Review Committee, Five-year Review, Center for Research on Information Technology and Organizations (CRITO), University of California, Irvine, 2004

Professional Affiliations and Memberships

Association for Consumer Research, American Marketing Association, INFORMS (member, Society for Marketing Science), Industry Studies Association (Founding member, 2009-present), Society for Consumer Psychology

Past memberships: Association for Computing Machinery, Classification Society of North America, CommerceNet, Psychometric Society

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Membership in Professional Organizations**Elected Positions**

2021-2022	AMA CB Sig, Past Chair
2020-2021	AMA CB Sig, Chair
2019-2020	AMA CB Sig, Chair-Elect
2018-2019	<i>Journal of the Association for Consumer Research</i> , Policy Board Chair
2017-2020	Perspectives Director (Industry) Association for Consumer Research Board of Directors
1998-1999	Past-President, INFORMS Section on Marketing (former name)
1996-1997	President, INFORMS Section on Marketing
1994-1995	President-Elect, TIMS College on Marketing
1992-1993	Secretary-Treasurer, TIMS College on Marketing
1992-1993	Editor, TIMS College on Marketing Newsletter (published quarterly)
1992-1999	Council Member, TIMS College on Marketing Advisory Council
1995	Program Chair, American Statistical Association, Section on Marketing
1994	Program Chair-Elect, American Statistical Association, Section on Marketing

Program Committees

ACM Conference on Electronic Commerce EC'08 2008
 Association for Consumer Research (ACR) Annual Conference, multiple years 1992-present
 Computers, Freedom, & Privacy Annual Conference 1996, 1997, 1998
 Society for Consumer Psychology (SCP) Annual Conference, multiple years-present

Boards and Committees

Marketing Edge, Board of Trustees, Member, 2019-2022
 Procter & Gamble Digital Advisory Board February 2009-2013
 Marketing Science Institute, Academic Trustee 2008-2014
 Web Analytics Association, Advisory Board 2005-present
 Marketing Science Institute "Blue Ribbon" Committee, Web Survey Research Project 2004-2006
 Inc. Magazine Web Awards 2001
 EFF Pioneer Awards Judge 2001, 2002, 2003, 2004, 2005
 Prize for Promise (nominator) 2002
 Qbiquity, Advisory Board 2001
 Internet Policy Institute 2000
 eConception, Director 1999-2000
 Credible.org, Advisory Board 1999
 Standard for Internet Commerce, Founding Member 1999

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GII Awards, Final ("Blue Ribbon") Judge, Business Category 1996-1999

AAAS Project (NSF) on Anonymous Communications on the Internet, Advisory Committee 1996-1997

Associate Member, CommerceNet; member, Marketing Working Group 1994-2000

Professional Experience

Summer Visiting Scholar, Interval Research Corporation, 1995-1999

Research Associate, Columbia Business School Institute for Tele-Information, 1984-1985

Social Science Analyst, Research Triangle Institute, Research Triangle Park, North Carolina, 1980-1981

Strategic Consulting

Bellcore, Bell Northern Research/Northern Telecom, Cohen, Klingenstein & Marks Inc., Daimler-Benz, Eli Lilly, Federal Reserve Board Electronic Payments System Panel, Hewlett-Packard, HotWired, Impact Planning Group, Intel Corporation, Interval Research Corporation, Kantar Futures Practice, Microsoft Corporation, Nashville Chamber of Commerce, Netscape Communications Corporation, Nielsen Media Research, Ogilvy & Mather, Procter & Gamble, (r)evolution partners, Reinault-Thomas, SBC, Starwave, Stratford Associates, Television Audience Assessment, Inc.

Expert Witness

- Written Affidavit and Deposition for the defendant, March 2024, The State of Texas v Google LLC, Case No. 22-01-88230-D.
- Written Affidavit and Deposition for the defendant, Fall 2023, Mobile Emergency Housing Corp. Inc. d/b/a Performance Automotive & Tire Center, and David Justin Lynch, individually and on behalf of all others similarly situated v. HP, Inc. d/b/a HP Computing and Printing, Inc., Case No. 5:20-CV-09157-SVK
- Written Affidavit and Deposition for the defendant, Spring 2023, Anibal Rodriquez, Sal Cataldo, Julian Santiago, and Susan Lynn Harvey, individually and on behalf of all similarly situated v. Google LLC, Case No. 3:20-cv-04688-RS
- Written Affidavit and Deposition for the defendant, Fall 2022-Spring 2023, Google Play Store Antitrust Litigation, Case No. 3:21-md-02981-JD.
- Written Affidavit and Deposition for the defendant, Spring and Summer 2022, State of Arizona, *ex. rel.* Mark Brnovich, Attorney General v. Google LLC, a Delaware Limited Liability Company, Case No. CV2020-006219.
- Written Affidavit and Deposition for the plaintiff, Spring 2019, The Reinalt-Thomas Corporation d/b/a Discount Tire, vs Mavis Tire Supply LLC, Case 1:18-cv-05877-TCB

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- Written Affidavit for the defendant, 2015, Federal Trade Commission v. Amazon.com, Inc., Case No. 2:14-CV-01038-JCC
- Written Affidavit and Deposition for the plaintiff, Summer 2012, The Reinalt-Thomas Corporation d/b/a Discount tire, a Michigan corporation v. AKH Company, Inc, a California corporation, Case No. 2:10-cv-01055-JWS
- Written Affidavit and Deposition for the defendant, Fall 2009, Autodesk, Inc. vs. Dassault Systèmes SolidWorks Corporation, Case No. 3:08-cv-04397-WHAT
- Written Affidavit for the plaintiff, Winter 2005, Ameripay, LLC v. Ameripay Payroll Ltd, US District Court for the Northern District of Illinois, Eastern Division, Case No. 2:03-cv-03534-FSH-PS
- Written Affidavits for the defendant, Spring 2003, Verizon Northwest, et.al. v. Showalter, et.al., United States District of Washington (Seattle), Case No. 2:02-cv-02342-RBL
- Written Affidavit for the defendant, Fall 2001, PowerAgent, Inc. v. Electronic Data, US Court of Appeals for the Ninth Circuit, Case No. 02-17022.
- Written Affidavit and Deposition for the defendant, Spring 2001, Amway Corporation v. Procter & Gamble Co, et.al., US District Court, Western District of Michigan, Southern Division, Case No. 1:98-CV-726 (W.D.).
- Written Affidavit, Deposition, and Trial Testimony (January 20, 1999) for the plaintiffs in the Federal trial, American Civil Liber, et al. v. Gonzales, challenging the constitutionality of the Child Online Protection Act (COPA). Eastern District of Pennsylvania (Philadelphia), Case No. 2:98-cv-05591. Lead Witness.
- Written Affidavit for the plaintiff, Orman, et.al. v America Online, Inc., et. al., (April 30, 1998), United States District Court, Virginia Eastern (Alexandria), Case No. 1:97cv264.
- Written Affidavit, Deposition, and Trial Testimony (March 22, 1996) for the plaintiffs in the joined Federal trials, ACLU v. Reno and ALA v. Reno, challenging the constitutionality of the Communications Decency Act (CDA) portion of the Telecommunications Bill of 1996, United States District Court, Pennsylvania Eastern (Philadelphia), Case No. 2:96cv963.

UNIVERSITY AND PRIVATE FOUNDATION GRANTS & CORPORATE GIFTS

Co-Founder and Co-Director, Sloan Center for Internet Retailing (2003-present) and eLab (1994-present.). Professor Tom Novak and I founded eLab/Project 2000 in 1994 to conduct scholarly research in Internet marketing and e-commerce. In March 2003, the Alfred P. Sloan Foundation awarded a grant establishing the Vanderbilt University Sloan Center for Internet Retailing. The Center moved to the University of California, Riverside, in July 2006.

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From 1994-2006, we raised over \$3 million in Sloan Center and eLab funding from the sources below:

Corporate Funding (\$932,000 Project 2000/eLab; \$450,000) Sloan Center for Internet Retailing):

CDnow, Daimler-Chrysler, FedEx, the Freedom Forum, Digeo, Financial Services Technology Consortium, First Horizon, Focalink, Gaylord Entertainment, HotWired Ventures LLC, Hewlett-Packard, Ingram Entertainment, Interval Research Corporation, iVillage, J.C. Bradford, Land's End/Sears, NCR Knowledge labs, Neomodal, Netscape, Nielsen Media Research, O'Reilly & Associates, Pitney Bowes, Roche-Diagnostics, Rouse Company, SBC, Shop at Home, Shop.org, Sprint, Sterling Commerce, Sun Microsystems, Vulcan Ventures, VF Corporation, Walmart.com, Yankelovich Partners.

Foundation and Government Grants (\$565,000):

Alfred P. Sloan Foundation, American Association for Advancement of Science, The Aspen Institute, The Freedom Forum First Amendment Center, Marketing Science Institute, John and Mary R. Markle Foundation, National Science Foundation

University Grants (\$1,075,000):

Vanderbilt University Central Administration, Vanderbilt University Research Council, Vanderbilt University Medical Center

The Sloan Center for Internet Retailing moved to UC Riverside in July 2006.

Corporate Gifts

Newsfutures 04/2007	In-kind
GSI Commerce 12/2007	\$5,500
Organize.com 12/2007	\$5,000
Procter & Gamble 09/2008	\$5,000
Miller Coors 09/2008	\$10,000
Hershey 09/2009	\$ 5,000

UC Riverside Academic Senate Omnibus Grant

2012	\$1150
2011	\$1400
2010	\$630
2009	\$1000
2008	\$1500
2007	\$1607

George Washington University Administrative Service

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University

GW University Honors Program Advisory Committee, member, Fall 2014-2017

GWSB

SWAPT, Member Fall 2021-present
Dean's Covid 19 Response Advisory Task Force Spring 2020
MBA Curriculum Taskforce, 2019
Research Committee, Spring 2017, 2018-2020
SWAPT, Member Fall 2015-Spring 2017
Strategic Planning Committee, Cross-Disciplinary Taskforce Spring 2015

Marketing Department

Department Chair, 2017
APT Chair, Spring 2014-Spring 2016

UC Riverside Administrative Service Department

AGSM Department of Management and Marketing Department Chair, 07/1/2006-6/30/2011
Marketing Area Recruiting Search Committee, Chair, 2006-2007
Management Area Recruiting Search Committee, Ex-Officio Member, 2006-2007
Marketing Area Recruiting Search Committee, Ex-Officio Member, 2007-2008
Management Area Recruiting Search Committee, Ex-Officio Member, 2007-2008
Management Area Recruiting Search Committee, Chair, 2008-2009
Marketing Area Recruiting Search Committee, Ex-Officio, 2008-2009
First Annual AGSM Marketing Camp, May 9, 2008

College

Soba Faculty Mentor to Student American Marketing Association Club, 2012-present
AGSM Strategic Planning Committee, 2008-2009
AGSM Senior Leadership Team, 9/2007-present
AGSM Graduate Committee, 07/2006-06/2007
AGSM BASD Committee, 07/2007-2009

Campus

UCR Online Strategic Planning Committee, 2013-present
UCR Faculty Welfare Committee, 2012-present
UCR Strategic Planning Committee, Academic Excellence Subcommittee, 2009-2010

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UCR AGSM Dean Search Committee, 2006-2007
UCR Senior Marketing Council, 2006-2008
UCR School of Medicine Dean Search Committee, 2007
UCR School of Communications Task Force Co-Chair, 2008-present

Vanderbilt University Administrative Service

Faculty Senate, 1996-1999, 2004-2006
Technology Literacy Arc Seminar, sponsored by the Center for Teaching and the Associate Provost for Innovation through Technology, 2002
Owen Executive Committee 2004-2006
Dean Search Committee 2004-2005
Faculty Development Committee, 2003-2005
Marketing Recruiting Committee, 1997, 2003-2006
Owen Strategic Planning Committee, 2001-2002
Marketing Area Head, 2002-2003, 2005-2006
Chair, Marketing Recruiting Committee, 1994 (co-chair), 1999, 2001, 2002, 2004, 2005
Coordinator, Marketing Area Ph.D. Program, 1994-2001
Member, Owen Ph.D. Committee, 1993-2003
Chair, Computing/Telecommunications Strategic Planning Committee, 1993-1996
Promotion Committee, Ray Friedman, 2003
Renewal Committee, Neta Moye, 2002
Human Resources/Organizational Studies Search Committee, 1994
Director, Electronic Commerce Program, 2000-2005
Faculty Sponsor, eBusiness and Technology Club, 2000-2005
Director & Founder, Electronic Commerce Emphasis, 1996-2000
Faculty Advisor (Marketing area), Business Projects Group, 1994-2000
EMBA Curriculum Committee 2002-2003
Committee on Instruction, 1997-2000

UT Dallas Administrative Service

School of Management Executive Education Committee, 1991-1992
School of Management Teaching Committee, 1991-1993
University Committee on Faculty Standing and Conduct, 1991-1993

Columbia Business School Administrative Service

Marketing Faculty Recruiting Coordinator, 1988
Marketing Faculty Search Committee, 1988; 1986
Faculty Research Review Committee (Chair, 1989), 1987-1990

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Committee on Computer Use (Chair, 1987-1989), 1987-1990

Selected Media Recognition

Business Week "Mover & Shaker," San Francisco Webgrrls Top 25 Women on the Web, *Microtimes* 100, Advertising Age "Web Warrior," *c/net* "Visionary," *Internet World* "Internet Hero," *Newsweek* "The Net 50 People Who Matter Most on the Internet"

Documents Relied Upon

Academic Articles

- Barhorst, Jennifer B. et al. (2021), “Blending the Real World and the Virtual World: Exploring the Role of Flow in Augmented Reality Experiences,” *Journal of Business Research*, 122, 423–436
- Bietti, Elettra (2023), “A Genealogy of Digital Platform Regulation,” *Georgetown Law Technology Review*, 7, 1, 1–68
- Brynjolfsson, Erik et al. (2023), “The Digital Welfare of Nations: New Measures of Welfare Gains and Inequality,” *NBER Working Paper* 31670, 2023, <https://www.nber.org/papers/w31670>
- Carroll, John M. and Carrithers, Caroline (1984), “Training Wheels in a User Interface,” *Communications of the ACM*, 27, 8, 800–806
- Chatterjee, Patrali, Donna L. Hoffman, and Thomas P. Novak (2003), “Modeling the Clickstream: Implications for Web-Based Advertising Efforts,” *Marketing Science*, 22, 4, 520–541
- Ching, Andrew T., David Granlund, and David Sundström (2022), “Quantifying the Zero-Price Effect in the Field: Evidence from Swedish Prescription Drug Choices,” *Journal of the Association for Consumer Research*, 7, 2, 175–185
- De Keyzer, Freya, Nathalie Dens, and Patrick De Pelsmacker (2015), “Is This for Me? How Consumers Respond to Personalized Advertising on Social Network Sites,” *Journal of Interactive Advertising*, 15, 2, 124–134
- Fain, Daniel C. and Jan O. Pederson (2006), “Sponsored Search: A Brief History,” *Bulletin of the American Society for Information Science and Technology*, 32, 2, 12–13
- Hoffman, Donna L., and Thomas P. Novak (2009), “Flow Online: Lessons Learned and Future Prospects,” *Journal of Interactive Marketing*, 23, 1, 23–34
- Hoffman, Donna L., and Thomas P. Novak (1996), “Marketing in Hypermedia Computer-Mediated Environments: Conceptual Foundations,” *Journal of Marketing*, 60, 3, 50–68
- Hoffman, Donna L., Thomas P. Novak, and Marcos Peralta (1999), “Building Consumer Trust Online,” *Communications of the ACM*, 42, 4, 80–85.
- Hoffman, Donna L., Thomas P. Novak, and Patrali Chatterjee (1995), “Commercial Scenarios for the Web: Opportunities and Challenges,” *Journal of Computer-Mediated Communication*, 1, 3

- Iizuka, Toshiaki and Hitoshi Shigeoka (2022), “Is Zero a Special Price? Evidence from Child Health Care,” *American Economic Journal: Applied Economics*, 14, 4, 381–410
- Jansen, Bernard J. and Tracy Mullen (2008), “Sponsored Search: An Overview of The Concept, History, and Technology,” *International Journal of Electronic Business*, 6, 2, 114–131
- Kim, Hyejin and Jisu Huh (2017), “Perceived Relevance And Privacy Concern Regarding Online Behavioral Advertising (OBA) and Their Role in Consumer Responses,” *Journal of Current Issues & Research in Advertising*, 38, 1, 92–105
- Lambrecht, Anja and Catherine Tucker (2013), “When Does Retargeting Work? Information Specificity in Online Advertising,” *Journal of Marketing Research*, 50, 5, 561–576
- Loureiro, Sandra Maria Correia et al. (2023), “Engaging With (vs. Avoiding) Personalized Advertising on Social Media,” *Journal of Marketing Communications*, 1–22
- Novak, Thomas P., Donna L. Hoffman, and Yiu-Fai Yung (2000), “Measuring the Customer Experience in Online Environments: A Structural Modeling Approach,” *Marketing Science*, 19, 1, 22–42
- Richard, Marie-Odile and Ramdas Chandra (2005), “A Model of Consumer Web Navigational Behavior: Conceptual Development and Application,” *Journal of Business Research*, 58, 8, 1019–1029
- Samuelson, Paul A. (1938), “A Note on the Pure Theory of Consumer’s Behaviour,” *Economica*, 5, 17, 61–71
- Schomakers, Eva-Maria, Chantal Lidynia, and Martine Ziefle (2020) “All of Me? Users’ Preferences for Privacy-Preserving Data Markets and the Importance of Anonymity,” *Electron Markets*, 30, 649–665
- Shampanier, Kristina, Nina Mazar, and Dan Ariely (2007), “Zero as a Special Price: The True Value of Free Products,” *Marketing Science*, 26, 6, 742–757
- Shugan, Steven M. (2008), “Editorial: Introduction to the Special Classics Issue,” *Marketing Science*, 27, 1, 9–11
- Sindermann, Cornelia et al. (2020), “Should We Pay for Our Social Media/Messenger Applications? Preliminary Data on the Acceptance of an Alternative to the Current Prevailing Data Business Model,” *Frontiers in Psychology*, 11, 1415
- Stremersch, Stefan, Isabel Verniers, and Peter C. Verhoef (2007), “The Quest for Citations: Drivers of Article Impact,” *Journal of Marketing*, 71, 3, 171–193

- Valdez, Calero A. and Martina Ziefle (2019), “The Users’ Perspective on the Privacy-Utility Trade-Offs in Health Recommender Systems,” *International Journal of Human-Computer Studies*, 121, 108–121
- Wu, Ing-Long, Mai-Lun Chiu, and Kuei-Wan Chen (2020), “Defining the Determinants of Online Impulse Buying Through a Shopping Process of Integrating Perceived Risk, Expectation-Confirmation Model, and Flow Theory Issues,” *International Journal of Information Management*, 52, 1–12

Books and Book Chapters

- Galitz, Wilbert O. (2007), *The Essential Guide to User Interface Design: An Introduction to GUI Design Principles and Techniques*, Third Edition, Indianapolis, IN: Wiley Publishing
- Nesamoney, Diaz (2015), *Personalized Digital Advertising*, Old Tappan, NJ: Pearson Education, Inc.

Legal Documents

- Declaration of [REDACTED], *In Re: Google Digital Advertising Antitrust Litigation*, United States District Court for the Southern District of New York, Case No. 1:21-md-3010-PKC, June 28, 2024
- Fourth Amended Complaint, *In Re: Google Digital Advertising Antitrust Litigation, State of Texas et al., v. Google LLC*, United States District Court for the Southern District of New York, Case No. 1:21-cv-06841-PKC, May 5, 2023

Publicly Available Reports

- *2018 Customer Experience/Unified Commerce Survey*, BRP, 2018, <https://web.envistacorp.com/hubfs/BRP%20Customer%20Experience%20Unified%20Commerce%20Survey%202018%20-%20ENVISTA.pdf>
- *2023 IAB Annual Report*, IAB, 2023, https://www.iab.com/wp-content/uploads/2024/01/2023_IAB_Annual-Report.pdf
- *Inflation Nation: One Year Later the Status of the American Dream and How Brands Can Help*, Horizon Media, March 2023, <https://horizoncatalyst.com/inflation-nation-one-year-later>
- *Making it Personal*, Accenture Interactive, 2018, <https://www.accenture.com/content/dam/accenture/final/a-com-migration/pdf/pdf-83/accenture-making-personal.pdf>
- *The Free and Open Ad-Supported Internet: Consumers, Content and Assessing the Data Value Exchange*, Interactive Advertising Report, January 30, 2024,

<https://www.iab.com/wp-content/uploads/2024/01/IAB-Consumer-Privacy-Report-January-2024.pdf>

- *TV Churn Tracker Q1 2024: Review of Key Trends and Findings From January-March, Excerpt of Findings*, Hub Entertainment Research, May 2024, <https://hubresearchllc.com/reports/?category=2024&title=2024-tv-churn-tracker>

SEC Filings

- Alphabet Inc., SEC Form 10-K for Period Ended December 31, 2023, Filed on January 31, 2024, <https://www.sec.gov/Archives/edgar/data/1652044/000165204424000022/goog-20231231.htm>

Webpages

- “A Declaration of the Independence of Cyberspace,” *Electronic Frontier Foundation*, February 8, 1996, <https://www.eff.org/cyberspace-independence>
- “About the Center,” *GW Center for the Connected Consumer*, <https://postsocial.gwu.edu/about/>
- “AdSense Turns 10: Reflections On Google’s Great Leap Beyond Search Ads,” *MarTech*, February 27, 2013, <https://martech.org/adsense-turns-10-reflections-on-googles-great-leap/>
- “Ads that Respect Your Privacy,” *Google Safety Center*, <https://safety.google/privacy/ads-and-data/>
- “Ad-Supported Disney+ Subscription Tier to Launch in the U.S. On December 8,” *Disney+*, August 10, 2022, <https://press.disneyplus.com/news/ad-supported-disney-plus-subscription-tier-to-launch-in-us-december-8>
- “Americans Value Free Ad-Supported Online Services at \$1,400/Year; Annual Value Jumps More Than \$200 Since 2016,” *Digital Advertising Alliance*, September 28, 2020, <https://www.prnewswire.com/news-releases/americans-value-free-ad-supported-online-services-at-1-400year-annual-value-jumps-more-than-200-since-2016--301138934.html>
- “An Advertising Power, But Just What Does DoubleClick Do?” *New York Times*, September 22, 1999, <https://www.nytimes.com/1999/09/22/technology/an-advertising-power-but-just-what-does-doubleclick-do.html>
- “An Update on Prime Video,” *Amazon*, September 22, 2023, <https://www.aboutamazon.com/news/entertainment/prime-video-update-announces-limited-ads>

- “Banner Definition,” *Merriam-Webster*, <https://www.merriam-webster.com/dictionary/banner>.
- “Control the Ads You See When You See Them,” *Google Help*, <https://support.google.com/My-Ad-Center-Help/answer/12155764>
- “Control the Info Used for Ads,” *Google My Ad Center*, <https://myadcenter.google.com/controls>
- “Customize Your Ads Experience,” *Google Help*, <https://support.google.com/My-Ad-Center-Help/answer/12155451>
- “Delete Your Activity,” *Google Help*, <https://support.google.com/accounts/answer/465>
- “Digital Equipment Corporation (USA),” *LinkedIn*, <https://www.linkedin.com/company/digital-equipment-corporation-usa>
- “Display Campaigns: Reach More People in More Places Online,” *Google Ads*, https://web.archive.org/web/20190711092708/https://ads.google.com/intl/en_us/home/campaigns/display-ads/
- “First Virtual Holdings Incorporated,” *International Conference on Information Systems Proceedings 76*, December 1999, <https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1155&context=icis1999>
- “Google’s Big Break,” *Slate*, October 13, 2013, <https://slate.com/business/2013/10/googles-big-break-how-bill-gross-goto-com-inspired-the-adwords-business-model.html>
- “Google Launches Self-Service Advertising Program,” *Google*, October 23, 2000, <https://googlepress.blogspot.com/2000/10/google-launches-self-service.html>
- “Google Privacy Policy,” *Google*, May 25, 2018, <https://policies.google.com/privacy/archive/20180525>
- “Google Privacy Policy,” *Google*, February 10, 2022, <https://policies.google.com/privacy/archive/20220210>
- “Google Privacy Policy,” *Google*, December 15, 2022, <https://policies.google.com/privacy/archive/20221215>
- “Google Privacy Policy,” *Google*, March 28, 2024, <https://policies.google.com/privacy>
- “Hoffman and Novak Named ‘Distinguished Graduate Alumni,’” *Vanderbilt University News*, June 6, 2003, <https://news.vanderbilt.edu/2003/06/06/hoffman-and-novak-named-145distinguished-graduate-alumni146-59977>

- “Hoffman Receives Clarke Award,” *American Marketing Association*, August 1, 2011, <https://www.ama.org/listings/2011/08/01/hoffman-receives-clarke-award/>
- “How Companies Can Get the Most Out of a Freemium Business Model,” *Harvard Business Review*, March 20, 2019, <https://hbr.org/2019/03/how-companies-can-get-the-most-out-of-a-freemium-business-model>
- “How Google Uses Location Information,” *Google Privacy & Terms*, <https://policies.google.com/technologies/location-data>
- “How Our Business Works,” *Google*, <https://about.google/how-our-business-works/>
- “How Our Business Works,” *Google*, <https://web.archive.org/web/20200220202923/https://about.google/how-our-business-works/>
- “How Personalized Ads Work,” *Google Help*, <https://support.google.com/My-Ad-Center-Help/answer/12155656>
- “Hub Research: U.S. Streamers Are Shifting To Ad-Supported Tiers,” *World Screen*, May 10, 2024, <https://worldscreen.com/hub-research-u-s-streamers-are-shifting-to-ad-supported-tiers/>
- “Internet Concern Plans System for Small Online Transactions,” *New York Times*, March 8, 1999, <https://archive.nytimes.com/www.nytimes.com/library/tech/99/03/biztech/articles/08g old.html>
- “Introduction to Real-Time Bidding (RTB),” *Google Help*, <https://support.google.com/authorizedbuyers/answer/6136272?hl=en/>
- “Love Streaming on Prime? Amazon Will Now Force You to Watch Ads, Unless You Pay More,” *USA Today*, January 31, 2024, <https://www.usatoday.com/story/entertainment/tv/2024/01/29/amazon-prime-video-commercials/72323206007/>
- “Making ‘Freemium’ Work,” *Harvard Business Review*, May 2014, <https://hbr.org/2014/05/making-freemium-work>
- “Marketing in Hypermedia Computer-Mediated Environments: Conceptual Foundations,” *Google Scholar*, https://scholar.google.com/scholar?hl=en&as_sdt=0%2C33&q=Marketing+in+Hypermedia+Computer-Mediated+Environments%3A+Conceptual+Foundations&btnG=
- “Merkle,” *Dentsu*, <https://www.dentsu.com/us/en/who-we-are/our-agencies/merkle>
- “Micropayments: Exploring Usage and Examples,” *Supermoney*, March 15, 2024, <https://www.supermoney.com/encyclopedia/micropayments>

- “Micropayments for Digital Content Monetization,” *Finance Magnates*, August 3, 2023, <https://www.financemagnates.com/fintech/payments/micropayments-for-digital-content-monetization/>
- “Micropayments-For-News Pioneer Blendle is Pivoting From Micropayments,” *Nieman Lab*, <https://www.niemanlab.org/2019/06/micropayments-for-news-pioneer-blendle-is-pivoting-from-micropayments/>
- “Millicent Introduction,” *Millicent*, March 17, 2024, <https://web.archive.org/web/19970601153824/http://www.millicent.digital.com/html/palmer.html>
- “Minimize Cognitive Load to Maximize Usability,” *Nielsen Norman Group*, December 23, 2013, <https://www.nngroup.com/articles/minimize-cognitive-load/>
- “My Ad Center,” *Google My Ad Center*, <https://myadcenter.google.com/>
- “My Google Activity,” *Google My Activity*, <https://myactivity.google.com/myactivity>
- “Nearly 2 in 5 American Gamers Made a Purchase Because of an In-Game Ad,” *YouGov*, May 26, 2021, <https://today.yougov.com/technology/articles/36091-nearly-2-5-american-gamers-made-purchase-because-g>
- “Neeva, Co-Founded By a Former Google Exec, to Shut Down Its Consumer Search Product and Focus On A.I.,” *CNBC*, May 20, 2023, <https://www.cnbc.com/2023/05/20/neeve-co-founded-by-a-former-google-exec-to-shut-down-its-consumer-search-product-and-focus-on-ai.html>
- “Netflix Earnings Takeaway: New Ad-Supported Tier Is a Hit,” *Forbes*, January 19, 2023, <https://www.forbes.com/sites/tonifitzgerald/2023/01/19/netflix-earnings-takeaway-new-ad-supported-tier-is-a-major-hit/>
- “Netflix Gets It Right: Study Confirms More People Prefer Paying Less with Ads,” *Forbes*, April 25, 2023, <https://www.forbes.com/sites/tonifitzgerald/2023/04/25/netflix-gets-it-right-study-confirms-more-people-prefer-paying-less-with-ads/>
- “Olympics,” *The Dallas Morning News*, <https://www.dallasnews.com/topic/olympics/>
- “One Year into Netflix Ads,” *Netflix*, November 1, 2023, <https://about.netflix.com/en/news/one-year-into-netflix-ads>
- “Our Approach to Search,” *Google*, <https://www.google.com/search/howsearchworks/our-approach/>
- “Pay-for-Placement Gets Another Shot,” *CNET*, February 19, 1998, <https://www.cnet.com/tech/services-and-software/pay-for-placement-gets-another-shot/>

- “Personalized Ads on Sites that Partner with Google,” *Google Partner Ad Settings*, <https://adssettings.google.com/partnerads?ref=ata&ref-ctx=display&hl=en/>
- “Privacy Tools That Put You in Control,” *Google Safety Center*, <https://safety.google/privacy/privacy-controls/>
- “Progressive Disclosure,” *Interaction Design Foundation*, <https://www.interaction-design.org/literature/topics/progressive-disclosure/>
- “Progressive Disclosure,” *Nielsen Norman Group*, December 3, 2006, www.nngroup.com/articles/progressive-disclosure/
- “Q4 FY 23 Earnings Conference Call,” *The Walt Disney Company*, November 8, 2023, <https://thewaltdisneycompany.com/app/uploads/2023/11/q4-fy23-earnings-transcript.pdf>
- “Rolling Out First Price Auctions to Google Ad Manager Partners,” *Google*, <https://blog.google/products/admanager/rolling-out-first-price-auctions-google-ad-manager-partners/>
- “Settings for Personalized Ads,” *Google Ad Settings*, <https://adssettings.google.com/anonymous>
- “Survey: Few Americans Willing to Pay for Privacy,” *Center for Data Innovation*, January 16, 2019, <https://datainnovation.org/2019/01/survey-few-americans-willing-to-pay-for-privacy/>
- “‘The Beginning of a Giant Industry’: An Oral History of the First Banner Ad,” *Digiday*, November 8, 2017, <https://digiday.com/media/history-of-the-banner-ad/>
- “The Economy of Ideas,” *Wired.com*, March 1, 1994, <https://www.wired.com/1994/03/economy-ideas/>
- “The Rise of Privacy-First Search Engines: A Marketer’s Guide to Neeva, Brave, and DuckDuckGo,” *BrainLabs*, <https://www.brainlabsdigital.com/blog/the-rise-of-privacy-first-search-engines-a-marketers-guide-to-neeve-brave-and-duckduckgo/>
- “Updates: Privacy Policy,” *Google*, <https://policies.google.com/privacy/archive>
- “Welcome to the Millicent Web Site,” *Millicent*, March 10, 1997, <https://archive.ph/19970601153143/http://www.millicent.digital.com/>
- “We Use Data to Build Better Services,” *Google*, <https://policies.google.com/privacy?hl=en-US#whycollect/>
- “What’s a Micropayment Anyway?” *Medium*, November 29, 2017, <https://medium.com/@pluspare/whats-a-micropayment-anyway-5dbe4c1738f7>

- “Who Killed the Micropayment? A History,” *Medium*, March 18, 2021, <https://caseorganic.medium.com/who-killed-the-micropayment-a-history-ec9e6eb39d05>
- “Why Micropayments Will Never Be a Thing in Journalism,” *Columbia Journalism Review*, June 15, 2020, <https://www.cjr.org/opinion/micropayments-subscription-pay-by-article.php>
- “Your Ads, Your Choice,” *Google*, October 20, 2022, <https://blog.google/technology/safety-security/my-ad-center>

Bates Stamped Documents

- GOOG-AT-MDL-002934816–991
- GOOG-AT-MDL-010322108–128
- GOOG-AT-MDL-C-000017235–236